

MICHIGAN FARMER

AND STATE JOURNAL OF AGRICULTURE.

The Only Agricultural and Live Stock Journal in the State.

VOL. XXXII.
No. 3.

DETROIT, SATURDAY, JULY 17, 1897.

PRICE, 5 CENTS.
\$1 per Year.

Farm Department.

Conducted by J. H. Brown, who lives on his farm at Climax, Mich., which is conducted as the MICHIGAN FARMER Experiment Farm. All correspondence for this department should be sent to Climax.

For the Michigan Farmer.
FARM EXPERIENCES.

When I am called to give an account of my stewardship, there is one thing which I shall not have to answer for, and that is the waste of manure. None of it is kept idle a great while and none is soaked and leached by the rain, until it is spread where it is used. My horses are stabled the year around, and the manure made between the middle of June and the middle of August is thrown into the cow stable and kept until we can find time to draw it, those two months being very busy ones, and one or both horses being on the road every day. Last year I top-dressed a gravel knoll after plowing, and before fitting for sowing with rye. Six loads were put upon one-third of an acre, and ground into the soil with a disc harrow.

The rye was not sowed until October 10th, but within a month the effect of this top dressing was apparent, and has become more and more noticeable as growth progresses. The ground has been nicely covered almost from the start where the manure was used, while a little corner not manured is thin and weakly, showing quite plainly a difference at this time, two weeks before harvest.

To-day I was over the farm of a neighbor who has a silo, and keeps a dairy much larger than the size of the farm would warrant under the former system of wintering stock. He makes large quantities of good stable manure, and applies it as I do, as soon as possible after it is made. Year before last he manured a poor knoll nicely before sowing to wheat, working it into the soil before sowing. The result is that the clover upon the manured part is not only very heavy but entirely free from any growth of white topped weed. The limit of the weed is defined in fact by the manure.

In another field very heavily manured for ensilage corn, followed by oats and wheat, with clover sowed upon the wheat, and to be mowed this year there is scarcely any of the weed. Alongside is another field planted to corn without manure, then put into oats and followed with wheat, and again sowed to wheat because the clover seeding failed, but set in clover finally with the second wheat crop. Here the white-topped weed is very abundant. My neighbor's opinion is that with land rich enough to grow a rank full crop of clover, this weed (botanically daisy fleabane) has no chance and therefore does not appear. This weed is wonderfully abundant in most Ohio meadows, and its rank, high growth gives quite a deceptive appear-

ance to fields which were mostly bare ground in April.

In a recent visit to the Ohio Experiment Farm I noticed an almost entire absence of the daisy fleabane in plots which had been heavily fertilized, and the clover in consequence wholly occupying the entire ground.

FITTING NEW GROUND.

One of our wet weather jobs nearly every year is fitting up and bringing into cultivation a small area of new ground which is cleared of its timber as we get time in winter. This spring we had a very forbidding piece of a little more than an acre, which it has cost more than ten dollars worth of time to finally get into condition to use.

After first mowing weeds and briers, all rubbish was picked up and burned. Then with a good sharp, heavy plow we essayed to plow it, and this was about as slow and tedious a job as could be, breaking two whiffletrees and a wooden plow beam in the doing. I found that there were no wooden beams made any more, so my knowledge of the use of carpenters' tools came handy. In three hours I got out of a tough and crooked white ash butt a very serviceable beam, although not highly finished, and thus saved the ironwork of the plow which was nearly new.

When my son got through plowing about the first of June, he and the hired help was sure it was no good, and it did look very unpromising, but we ran over it once with a disc harrow, and then went at a three weeks' job of picking strawberries. When the strawberries were about gone we went at it again, spending two days zig-zagging, crossing and twisting all over it with the discs. It had been hot and tolerably dry for a week, and the transformation was wonderful. Two young men used an old axe and mattock half a day and picked up the broken roots, when it was moated and marked for corn.

Parts that seemed absolutely incorrigible and unusable showed considerable soil, and in planting it to sweet corn on July first, but little difficulty was experienced in getting dirt to cover, the job being done, of course, by hand with hoes. On a precisely similar piece of ground, treated in the same way some years ago, but planted to Evergreen and Egyptian sweet corn five days earlier, I sold, after October first, more than \$46 worth of ears, and had sixty-one large shocks of fodder, which kept two cows in rough feed until February 7th. There was 147 square rods of ground in the piece. On July second we plowed under a patch of Crescent and Warfield strawberries, and on the sixth hope to plant it to Monroe Seedling potatoes.

The ground has been harrowed and floated twice in fitting, so it is firm or compact as well as fine, and it will be marked just before planting and furrowed deeply with a light shovel

plow as fast as we plant, and no faster, so that the seed will fall in moist ground.

We plant by hand at this time so as to insure perfect covering. Of course a Robbins' machine would answer but the only one in the neighborhood is safely laid away for the year, and it was too much bother to get it for a single acre of planting. The seed used is cut to single eyes, and has been practically in cold storage, the cellar being so cool that very few sprouts have started more than a half inch, and most only enough to show the vitality of the seed. Of course this late planting of sweet corn and potatoes is risky, but "nothing venture, nothing win." I like to have late crops to sell up to the edge of winter, as the months of enforced idleness are long enough at the best.

Ohio.

(We wish more farmers would follow the practice of utilizing all manure as fast as made, the whole year round. We are more than pleased with our own practice during the past year. Try thin spreading on meadow land after harvest and during the fall months.)

One of the recent jobs on our farm has been to break up some new ground in our permanent pasture. It was formerly covered with oak grubs. We used an ordinary plow with steel beam and knife coulter attached. Breakages are of almost daily occurrence in this work.

We find nothing better than buckwheat to sow on such new ground, as, aside from helping to "subdue the land," it furnishes us with all the "pancake" material wanted.—Ed.)

For The Michigan Farmer.
BUGS BEHAVING BADLY—RYE ROPE.

Just at the present time most farmers are being greatly troubled by potato bugs. In many cases the old bugs are eating off the potatoes as fast as they appear above ground.

I find they will eat wheat bran well, and by thoroughly mixing paris green with the bran and scattering it along the rows sure and speedy results will be accomplished. This can be applied when the potatoes are first coming through the ground, and it does not have to be upon the vines to be eaten by the bugs. Of course after vines are large it is probably cheaper to spray with an arsenic solution.

I noticed last week, while riding through the country, a farmer cutting rye with a cradle. A few questions developed the fact that he was getting a supply of string to tie corn fodder next fall. He cuts it, lets it dry, binds it up and puts it away in the barn to be used in the fall to tie both shocks and bundles after husking.

It is cut before the seed is ripe, so that it will not scatter about the farm and grow. It has the length and strength, so that but a small amount is required for a band. This surely is an

easy way to avoid quite an item of expense in harvesting a crop of corn.

A. H. FOSTER.

Allegan Co., Mich.

(The plan Friend Foster tried with the bugs was proven in many places last season to be a success.—Ed.)

HOW MUCH PARIS GREEN?

Will you kindly inform me through The Farmer how much Paris Green to use to a certain amount of water for spraying potato plants? Will adding lime make a better mixture? If so, how much?

AUGUST LOEFLEK.

Berrien Co., Mich.

(For large quantities use about one pound of pure Paris green thoroughly stirred into 100 to 150 gallons of water. Keep well stirred while using.)

For each 150 gallons of water add about 12 ounces of fresh caustic lime. First slack the lime into about three gallons of water, then add to the 150-gallon mixture of Paris green and water.

The lime water retards, and even prevents the caustic action of the poison on the foliage. The adding of flour, glucose or molasses, in a very small quantity, helps make the mixture more adhesive to the foliage, thus making the poisonous application more effective, because retained more permanently on the plants.

One quart of molasses to each 50 gallons of water is recommended; or a small quantity of flour made into a thin batter, then stirred into the mixture.—Ed.)

For the Michigan Farmer.
THE FIRST GROWTH AND CARE OF POTATOES.

Taking up the subject in connection with our article on "Potatoes for a Dry or Wet Season," and also the "Machine Planting of Potatoes," I would say that any method or system, if of any value, while being subject to changes of soil and season, is of greater value and productive of the best results if worked out true to main principles.

One of the most potent factors in hindering the rapid and proper development of the root system and setting potatoes is the resistance of the soil. Whether this is a natural condition of the soil, or rendered so by seasons or other causes, it should be seen to at once, and the soil in contact with the young plants loosened, even disturbing the bed of the seed piece in the first cultivation.

When surface cultivation with a weeder or light drag has been frequent before the potatoes have made their appearance and up to the time when some of the plants are two and three inches high, some soils are liable to become compacted just below the depth of the teeth. This condition is easily corrected by close cultivation with some good tool, of which there are many.

Individual judgment must be relied upon for the minute details that are

varied by conditions of a local nature, while careful observation is the true milestone marking the way for the successful producer.

It is a part of the work to understand the habit of setting in the potato under cultivation. This is often of a very opposite habit in any probable varieties selected, or in the hands of any producer, unless they have been purposely selected. As an illustration the Extra Early Ohio has a habit of setting its tubers quite close to the underground joints or nodes of the stalk. Potatoes of this compact style of setting will grow their potatoes within a radius of six or eight inches, while the Bliss Triumph will set and grow its potatoes anywhere within a radius of one and one-half feet, and in some soils of a sandy, loamy character the best tubers will often be found at a distance of two feet from the underground stems of the plants.

Now these are not extreme instances, as we can pair off several hundred varieties in this way if necessary. It will be readily seen that cultivation of the Ohio could be carried on to good advantage long after that of the Bliss. This also shows the fallacy of attempting to arrange the setting by depth of planting.

The root formation of a young potato plant occurs just above or below the seed piece, according to which side of the seed piece has the eye surface. This formation takes place before the plant reaches the surface, and starts from the underground joints formed on the sprout or stalk. These root and tuber nodes often intermingle and usually form in an irregular circle on the base of the stalk.

In some varieties these tuber nodes form just above the first root nodes. These nodes are also varied by the system of cultivation and depth of planting, and can be produced almost at will by the intelligent grower. These somewhat irregular circles of nodes will form with about one-half inch of space between them and will contain a number of tuber nodes that are characteristic of the variety planted, the lower set of which will contain from three to five, some varieties being easily stimulated to set up to their limit with great regularity.

With deep planting these circles of tuber nodes increase their distance apart or above each other, and in too deep planting the second set of tuber nodes will often be found two inches above the first, showing plainly their natural inclination toward forming nearer the surface. As a rule each set or circle of tuber nodes will have a corresponding set of root-forming nodes.

Now it is one of the easiest things done in the potato field to secure three settings on a single stalk of a potato, which would average from nine to twelve tubers in a hill of one of the poorest setting varieties, while we have frequently secured as high as forty tubers on a single stalk. Some varieties of potatoes are great stalk or vine producers, often sending two and three stalks from a single eye, while others send but one.

Varieties that are very prolific of the number of stalks are often the most vigorous setters; so you can readily see the ease with which a good variety may be condemned from not knowing how to proportion the seed and start it in the right way. Many a poor crop is harvested as the result of giving the same treatment to all varieties.

Without enumerating the defects of any deep system of planting, I would call your attention to these few points, viz: The increased setting without adequate root formation and support, a seed bed that is too firm, offering continued resistance to the fibrous roots, a sure promoter of weak tops.

We must have these three important factors of potato growth: A warm, mellow seed bed, vigorous root formation, and hearty, healthy vines. These three may be had in any ordinary season by adhering to the following main principles: With the largest seed piece in proportion to the desired number of eyes, planted at a depth of from two to four inches below the natural level, varied according to soil, we can start on a sure basis.

With medium depth planting the tuber nodes are very vigorous and respond quickly to cultivation, which must be rapid enough that the soil will not pack from one operation till the next. Our experiments have demonstrated that better results are to be obtained in field culture by securing a moderate number of tuber sets on each of several stalks, than the same number on a single stalk.

The largest proportion of root development to tubers set is secured in this way and the burdens of production are lessened in adverse seasons. Large vines will be secured in this way that will be able to appropriate food from the surrounding atmospheric supplies. Each healthy leaf is a supply station for the plant and will be sure to gather its drop of dew at night, and a plant of this hearty style will thrive if rains are denied, while a plant that has been deprived of its foliage by any process whatever will prove a failure as far as producing is concerned.

Two of the three forms of supply of plant life are thus available—air and water, soil supplying the balance. The time potato plants need moisture is not so much in the early part of the season while forming the flowers roots and tuber sets as it is at the time when the burden of maturing the crop is at hand, so get your plants ready by cultivating deep while they are throwing out the first roots. These first roots thrown out from the bottom nodes want loose soil at once, and once well formed are better not disturbed too rudely. These roots starting at an average of three inches below the level will, if in loose soil, completely fill the soil with a mass of fibrous roots to a depth of twelve to twenty inches, unless stopped by a clay subsoil or the water line. Note this: Potatoes will drown just as certain with the top roots in water as they would if overflowed. By surface planting on wet ground the roots will follow the water as it recedes from the surface later in the season, and then with hilling up and opening a few furrows the water line can be controlled and a first-class crop of tubers secured.

THE FORMATION OF TUBERS.

The lower tuber joints are the least vigorous in pushing the stems which bear the tubers at their extremities, and the first tubers will be formed in the smallest radius. The second tuber nodes formed push their stems more rapidly and with greater vigor. Close watch should be kept of their formation and the cultivators run just close enough to disturb without breaking roots and tuber stems. The tuber stems of some varieties will push out from six inches to a foot in a week's time, so rapid is their growth.

The cultivator should be run as deep as convenient at this time, as it will probably be the last time the soil will be loosened, and the ground should be in good condition as an accompanying set of fibrous roots usually follow this second and third setting, finishing by throwing out a circle of roots just below the surface.

At this time some varieties will throw out a set of roots that are in appearance like the tuber stems, but are in reality very similar to the so-called "brace roots" of corn. This system of brace roots are often only noticeable on sandy soil, and are very rapid in growth, often traversing the distance between rows, two, three, and even three and one-half feet not being a rare occurrence, and work should be far enough advanced at this time to suspend cultivation if necessary.

Cultivation properly carried on up to this time should leave the whole system of tuber bearing stems, fibrous and surface roots entire, just disturbing the outer edge without destroying. With the plants in this condition, it remains to throw sufficient soil to the plant to cover the last setting of tubers if not in deep enough. If on wet land, hill up by all means, if on sand or well drained muck, but little if any hilling is necessary, although the tubers should be covered to protect from air and sun on any and all soils.

Cultivation after this should be of a purely surface nature, and as far as doing the potatoes any good may be dispensed with altogether, being only a waste of time, and at the prices obtained for the crop expenses must be as low as possible. I hear someone ask: "Don't we cultivate to produce moisture in dry weather?" Not in a lifetime. The only thing that would induce us to start any kind of cultivator in our own potatoes, after we had secured the right setting, would be a good rain.

Eaton Co., Mich.

W. E. IMES.

RYE, CLOVER AND SINK HOLES.

Frequently I see things in The Farmer than can be answered in a very few words, but it takes quite a while to write a little on paper.

I would say to those who have failed to have rye grow, do not be

afraid to sow the grain at any time of the year. I can't say how old it will have to be before it loses its vitality. It certainly takes more than two years.

Rye has failed to grow because it had been threshed when damp and heated in the bin. Try again, but don't sow musty grain. If you have any doubts, try a little as you would seed corn.

Thomas Condon makes an inquiry about sowing corn ground to clover seed in the spring. I would say drag or cultivate the ground in the spring, just as you would prepare it for oats. Then sow the clover seed and drag it in. Many are finding out that to get a good catch of clover they must do it by sowing it alone.

Some time ago someone said something about draining bad sink holes on the farm. In this neighborhood there are two such places about twenty rods apart, with no outlet. There was perhaps about one-half acre in each place, and the water stood in them always, except during the most severe drouths.

A rock well was put into one of the sinks down seventy feet deep. The owner then bricked down around the pipe eight feet, laid tile from the upper sink into this reservoir and let nature do the rest. Fine crops are growing in these places now, where nothing but turtles and frogs grew before.

I would like to ask in regard to a kind of a well that is put down with a sort of an earthen crock about eight or ten inches across. Are such wells a success? Who can tell of a firm that puts in such a well?

Have tried for the common drive well and failed. Rock wells are too costly with beams at twenty-five cents per bushel. We can find plenty of water from fifteen to twenty feet below the surface.

Z. A. HARTSUFF.

Livingston Co., Mich.
(Let us hear from those who have had experience with such wells.—Ed.)

For The Michigan Farmer.

FERTILIZER FOR THE LEAST MONEY.

All farmers now understand the necessity of manuring. The most successful of them know, too, that a farmer can no longer profitably play at Jack-of-all-trades farming. The dairy business is a specialty, as sheep and wool, or cotton, tobacco, vegetable, and grain farming. Only specialties pay these days. The farmer who does something of each, generally loses on all.

This changes the custom of manuring. While by the ante-belleum method of farming, a great deal of farmyard manure was made (though not enough even then), by the present and more profitable system not nearly so much is made. In these days we need more manure than did our fathers, simply because we expect to grow heavier crops. This brings up the question of artificial manures—chemical fertilizers.

In buying chemical fertilizers, the object is to buy just so much nitrogen, potash and phosphoric acid, having regard to the special forms in which each occur to avoid injurious results in the soil. Some forms of nitrogen cannot be utilized by plants, on account of not being soluble in the soil; the same is true of some forms of phosphoric acid. All plant food must become soluble in soil water before the plant can use them to advantage.

There is a wide difference in the cost of plant food. It is freely claimed that chemical manures can be purchased more cheaply than commercial fertilizers. In many cases this may be true, and the point is of so much importance, that the farmer cannot afford to neglect it. Nitrate of soda contains 16 pounds per hundred of nitrogen, and some forms of tankage contain only 8 pounds per hundred. In this instance, if nitrate of soda sells for \$50.00 per ton, the tankage is not worth more than \$25.00 per ton, as it only contains half as much nitrogen.

Roughly speaking, crops generally require equal quantities of nitrogen and potash, and from one-half to three-quarters as much phosphoric acid. All plant foods must be more or less in one way or another merely a waste of money. The general price to farmers of nitrogen is about 17 cents per pound, potash 6 cents per pound, and phosphoric acid costs about the same as potash. For sake of illustration, suppose a ten-acre field of wheat is contemplated, as the beginning of a four-year rotation; at 30

bushels of wheat per acre, and 2,700 pounds straw the crop will have removed from the soil:

Nitrogen, 450 lbs. at 17c.....	\$76 50
Potash, 350 lbs. at 6c.....	21 00
Phosphoric Acid, 220 lbs. at 6c.....	13 20
Total	\$110 70

The fertilizer cost, if supplied in the quantities the plant must have them, would cost \$11.07 per acre, and it would take 18 bushels of wheat per acre to pay the fertilizing bill. The wheat is followed by clover, giving a yield of two tons per acre, removing in the crop for the ten acres:

Nitrogen, 1,050 lbs. at 17c.....	\$178 50
Potash, 960 lbs. at 6c.....	57 60
Phosphoric Acid, 280 lbs. at 6c.....	16 80
Total	\$252 90

The third year will give a crop of two tons of timothy hay per acre, which means a fertilizer cost computed as above, for the ten acres:

Nitrogen, 890 lbs. at 17c.....	\$151 30
Potash, 940 lbs. at 6c.....	56 40
Phosphoric Acid, 320 lbs. at 6c.....	19 20
Total	\$226 90

The fourth year the sod is turned under for corn, which ends the rotation. The fertilizer demand for an average yield of 50 bushels per acre is:

Nitrogen, 670 lbs. at 17c.....	\$113 90
Potash, 800 lbs. at 6c.....	48 00
Phosphoric Acid, 310 lbs. at 6c.....	18 60
Total	\$180 50

For the four years rotation we have a total fertilizer cost of \$771.00, an average yield of 50 bushels per acre is: year. It is useless to say that this is theoretical and not practical. The crops mentioned actually take the quantities mentioned from the soil, and if the soil is drawn upon without restitution, it will strike back as surely as an over-drawn bank account.

There is a way of saving more than half of this money. Use legumes, the clovers, to supply the nitrogen. It is very easy to say this, and just as easy to carry into effect. Aid the clover, cowpeas, or field peas by liberal supplies of potash and phosphoric acid, and it will be needless to buy one pound of nitrogen. Use all of your farm manures on the corn each year. Its fertilizer properties will not add the corn to any considerable extent, but they will act with effect on the following wheat. If you must skip a year in the rotation, keep the soil in a clover—with corn, sow crimson clover in August with plenty of potash.

Omitting nitrogen, the fertilizer cost for the four years rotation is:

Wheat.....	\$34 20
Clover	74 40
Clover and Timothy	75 60
Corn	66 60
Total	\$250 80

or \$6.25 per acre, and the land giving good crops every year. This is the secret of profitable manuring and the only secret. Do not use potash without phosphoric acid, nor phosphoric acid without potash, or you will do more than simply waste money—you will positively injure the crop. You must have plenty of both to make your own nitrogen, and if the commercial fertilizers do not give the proper proportions, buy the ingredients and mix them on the farm.

S. PEACOCK.

Pennsylvania.

Development of Baling Machinery.

The past twenty-five years have been the most progressive in American history—in science, art, discovery and invention. Industry has rapidly gone forward and stands to-day the culminating greatness of all the achievements of man. The baling industry has found the consummation of its requirements in the product of the Geo. Eriel Co., Quincy, Ill. They have been in existence over a quarter of a century, and from the begin-



THE VICTOR HAY PRESS.

ning their business has made marvelous and substantial increase, until to-day they enjoy the distinction of having the largest baling press manufacturing in America. The company are now confining their attention exclusively to "The Victor," the ideal machine, known and recognized by intelligent dealers and farmers, as well as by candid rivals and their agents, as the highest standard of excellence in baling machinery. In calling the attention of our readers to the merits of the Geo. Eriel Co., we do them a favor that will be of lasting benefit to them, should they ever wish to purchase a baling press.

BAY VIEW—\$8.68—BAY VIEW.

For Camp Meeting.

The D. G. R. & W. R. R. (D. L. & N.) will sell tickets July 12th to 22d inclusive, good to return until August 21, at \$8.68 from Detroit. Trains leave Port St. station 5:00 a. m. and 6:10 p. m., connecting at Grand Rapids with fast trains. Arriving at Bay View at 8:00 p. m. and 6:00 a. m., respectively. Parlor cars and sleepers through.

BLAINE GAVETT, D. P. A., 7 Fort St.

For The Michigan Farmer. CISTERN CONSTRUCTION.

I will send you a plan for making a cistern that is used very successfully in this vicinity. Take a twenty-inch tile and sink firmly in the ground nearly to the flange, then dig the cistern from the inside of the tile, shaping to suit taste, using no brick or stone, as the earth is the best backing for a cistern that can be had. Where soil is light a coat of cement can be put on as fast as the dirt is removed.

The inlet and outlet can be managed to suit the builder, but the best outlet or overflow is one that starts from the bottom of cistern. It can be put in very cheaply in an old or new cistern, and when once used will always be used.

Take three-inch tile and commence near center of bottom, and lay along bottom and up the side to the shoulder of cistern. Then use an elbow to go through wall to connect with tile on outside. The same cement is used for the tile that is used to build cistern. This overflow takes the dead water and dirt from the bottom, leaving the water pure and free from taint or rank smell.

We have used different devices to keep our cistern water pure, and this plan is by far the cheapest and best. We connected the overflow from our cistern to the outlet to kitchen sink, and it helps greatly to keep that clean and free from bad odors. There are so many different shaped tile made that one can easily get what will fit the inside wall of cistern.

D. W. M.

Branch Co., Mich.
(We have a cistern that has worked perfectly for ten years without leaking or needing any repairs. It is built with a brick arch, similar to those described in recent issues of The Farmer.

This cistern is too small. Would it be cheaper to build another and larger one beside this, or enlarge the old one to required size?

A good cistern is a great convenience. Proper means should of course be provided for aeration of the water and for an overflow. We have seen tile arranged as suggested by friend D. W. M. and it worked perfectly.—Ed.)
For The Michigan Farmer.

The Dairy.

We have a complete Dairy and Farm Creamery in constant operation on the Experiment Farm at Climax, Mich. This is personally conducted by J. H. Brown. All dairy correspondence should be sent to Climax, Mich.

For The Michigan Farmer. LUMPY JAW IN CATTLE.

Would it be asking too much to publish a little in regard to what some people term lumpy jaw in cattle?

I have an animal that has a lump on lower jaw and it is growing larger. One of my neighbors three years ago had an animal afflicted in the same way. Some people told him it was lumpy jaw. He called a veterinary, who claimed there was no danger of lumpy jaw here as they only had it in the west, where they kept large numbers of cattle.

The veterinary was as much puzzled how to treat the animal as the man owning it. The doctor is a graduate from a college in Canada. The animal came near dying, but finally recovered and was fatted the next year.

What I would like to know, is there any danger of other cattle catching it, or the human family, from using milk? Is it considered a form of tuberculosis? I understand you are a graduate from our Agricultural College, and perhaps have had some knowledge of this disease. I do not ask you to prescribe, but simply give a short description of the disease and its origin. I fail to find anything in any of the horse or cow doctor books concerning it.

Z. A. HARTSUFF.

Livingston Co., Mich.
(A description of this disease has been given in the Farmer at least twice during the last four months in the Live Stock department. See issues of March 20 and 27 of the Farmer.

Actinomyces or lumpy jaw is contagious under certain conditions. If any of the matter which discharges from the tumors should reach the mucous membrane of the mouth, whether animal or man, there is much danger of inoculation, provided there is any abrasion of the mucous membrane; otherwise not. In fact, there is hardly a day in which the mouth or mucous membrane might not be even slightly injured, so that we should in general terms state that lumpy jaw is contagious.

Except where an animal is in an advanced stage of the disease, we doubt whether the milk is dangerous for human consumption, but we should, however, refuse to use it if aware of the animal's condition.

Actinomyces and tuberculosis are two entirely different diseases.

The writer is not a graduate of the Agricultural College. He attended school there but three months, being forced to leave on account of severe deafness. He has always regretted his inability to complete a course at this institution, but hopes, in a few years to come, to send his two boys there to secure a practical agricultural and business education that shall fit them for almost any good business, whether on the farm or in some profession.—Ed.)

IMPROVED CATTLE STALLS.

I wish to put in some improved cattle stalls suitable for cows or young cattle. Can you give me the number of the Farmer in which a description of them is given? If not, what kind would you recommend? Please answer through the Farmer.

SUBSCRIBER.

Lapeer Co., Mich.
(Of course we prefer the Bidwell stall. Hoard's model stall and several others have been described, but not all in one issue of the Farmer.

For full description, with cuts of particular stalls and ties, we suggest that you write the Director of Michigan Experiment Station, Agricultural College, Mich. A visit at the Farm barns would help you out more than anything else. By the way, it is now the time of year when excursions are in order, and a trip to the college would be a treat and of practical utility to every progressive farmer who has not already visited that institution.—Ed.)

TRAINING CATTLE TO LEAD.

It is becoming more and more customary for farmers to teach their young cattle to lead—to "halter break" them as colts are trained. It frequently becomes necessary to move cattle from place to place, and it is ever so much easier to lead them when accustomed to it than to drive them. It is sometimes almost impossible to drive them even from one farm to another. They become nervous, scared and often perfectly frantic, making driving really dangerous. It frequently happens that they must be driven over a bridge or railroad, which is often a difficult matter.

I remember of one instance in particular, when I bought a couple of heifers a few miles from home. With an assistant and the owner and his hired man, I tried to drive them home. I guess it wasn't a good day to drive cattle.

They were "gentle Jerseys," but before getting them a half mile from the premises, they made a dash for home, and away they went over fields and fences. I saw that further effort at driving would be useless. The next day I went there with a wagon, hitched them behind it with a good, strong rope and drove home without unnecessary fatigue or delay.

As a rule they will follow a wagon without difficulty, but occasionally one will act stubborn and deliberately lie down and refuse to go. In such cases put a halter on them, take a good, strong rope with ring attached to one end. Loop the rope around the body just back of the shoulders, with the ring below. Take the other end of the rope forward between the front legs, up through the halter ring and fasten securely to the rear end of the wagon. Start the team slowly, and if the animal refuses to move, the rope will draw tight. It cannot injure them. They suddenly forget all their obstinacy and follow without further trouble. It beats driving all to pieces. A person can sit on the wagon at ease and not be obliged to think things that wouldn't look well in print. Two or three can be fastened to one wagon, or even more, by fastening a long cross-piece to the end of the wagon box.

If an animal has been taught to lead, all this is unnecessary; they can be led as easily as a horse. A cow that has been taught to lead nicely is worth from one to three dollars more, other things being equal, than one that cannot be led, and if dehorned, is worth still more. There is no difficulty in teaching cattle to lead, if done while young. They are then easily handled and more susceptible to teaching.

It is more necessary to lead stock along the public highway than former-

ly, since fences are being removed in many localities. It is more or less injurious to a person's health to drive stock. It is frequently necessary to run until quite warm, and there is danger of taking cold. I know of several instances where persons injured their health, and in some cases permanently, by running after stock. Don't do it. Use more scientific methods of transporting stock and run no unnecessary risks.

A "Subscriber" asks a number of questions: 1—Would it not be better for a bull to have daily exercise than to be confined in the stable continually? I know of a case where a bull was a sure breeder as long as he had plenty of exercise, but after two years old was kept stabled and was uncertain. 2—Could farrow cows be profitably bought and fattened when the beef brings but four to five cents, dressed? Hay being worth \$10 per ton and meal 65 cents per hundred. What kind of grain would be best, and how much hay and grain ought a 1,000 pound cow to have? 3—Is the injection of tuberculin injurious to cows? Some claim that after its use, cows are sick for a time, do not eat well, and shrink in their flow of milk. Is the milk given during the period wholesome? 4—Will it pay to brush and card cows?"

1—It would undoubtedly be much better for the bull if he could have daily exercise in the open air and sunshine. Close confinement has a tendency to weaken the constitution to a certain degree. If not practical to pasture him with the herd during the day, and this is not advisable for different reasons, he can be turned into a yard at night. Many male breeding animals are rendered partially or wholly worthless for breeding purposes from want of exercise and high feeding. These two conditions weaken their procreative powers. A breeding animal of either sex should not be allowed to become excessively fat. They look well, but the offspring will not be the better for it. Some dairymen use their bulls regularly on a tread power for separating milk, churning and other work. Where two bulls are kept, they could be trained to work like a pair of oxen or team of horses and earn their keep, and still be used for breeding purposes.

2—It would depend very much upon what the farrow cows could be bought for. They would have to be bought very low indeed to pay the feed and a fair profit at such a low price, with hay and grain at the prices named. I believe it would be more satisfactory to buy a better class of stock and get better prices when ready for market. The amount of hay and grain a fattening animal of any kind should have depends somewhat upon the animal. Begin with moderate quantities and increase gradually until they are fed all they will eat up clean at each meal, but no more. Better leave it a trifle hungry than to overfeed. Since fat is the object, the feed should consist largely of fat-forming material, such as corn, oats and cottonseed meal.

3—Opinions differ as to the injurious effects of tuberculin. Many condemn it strongly. I would not advise its use unless compelled to. If a cow is sick and off her feed from its effects, the milk would certainly be affected to some extent. I think the danger from tuberculosis has been exaggerated.

4—It will certainly pay to, brush cows daily. They will feel better, look better and milk better. At an institute in Pennsylvania, a gentleman stated that three minutes' daily grooming his Jersey cows increased the average yield two quarts per cow. It seems like a strong statement, but grooming certainly is beneficial. The cows enjoy it, and it is necessary as a matter of cleanliness, if for no other reason.

O. J. VINE.

(Friend Vine makes a strong argument in urging the importance of training cattle to lead, and we wish to emphasize the matter from our own personal experience.

All our cows have been so handled that they enjoy going or coming to "meet a man," at any time, day or night. This is as it should be, on a dairy farm at least.

Yesterday morning the writer went into the calf pasture, in the orchard, adjusted the halter rope to the young Guernsey bull, and led him into the cow stable for the day. Although this "young thing" has been led in this way but a few times, he leads like a trained horse. It pays to train both cows and young cattle to lead whenever and wherever necessary, as the change required takes but little time, muscle,

and no strong language or oracular gymnastics as an intelligent accompaniment.

The fact that the young Guernsey bull leads so easily, makes it an easy matter to keep him in the cool, darkened stable during these hot days, where the flies cannot trouble him, letting him spend the nights in the pasture. The change each way is made, night and morning, when the other chores are being done.

We believe exercise and fresh air are necessary to all kinds of stock, especially to the dairy bull, as stated by Friend Vine.—Ed.)

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Live Stock.

"EXASPERATING PIGS" BECAUSE THEY ARE HARD TO CONTROL.

We have no doubt but H. M. Wills has scores of sympathizing friends that always have trouble, and always expect to, with their young pigs. Farmers die of old age, and never learn how to stop a pig hole or crack in the fence. One of the first lessons we learned on the farm was this, in the old-fashioned way, i. e., make all fence cracks so small that a pig, large enough to do any damage, cannot get through. As a boy one of our regular duties was to look for pig cracks in the fence and holes under it, and watch the water gaps for pig creeps. It was wonderful to us how many new ones we found in the inspecting walks.

But in climbing to the top of life's hill we have learned a good many things about pigs, and hogs in general. Now we seldom ring anything in the hog line except the brood sows, and they are without rings a good part of the time. Our spring and fall pigs grow up and go to market without these jewels, and we have less damage done than most men that grow hogs suffer, from one-fourth the number we grow. We have found that the best way to stop a pig crack or hole, or creep, is to feed the pig, and the same we believe to be true as regards rooting.

Although it is hard to keep a pig from rooting old timothy or blue grass pasture, when the ground is soft, on account of the grub worms and other insects that infest these old fields, still with a little management this may in the main be prevented. One preventative is thorough draining, thus getting rid of wet spots where the pigs always root first. Another, have clover fields to be plowed next spring for winter range for the pigs. They will not root clover to any serious extent, if properly fed. We have no trouble with our pigs rooting the clover during the spring and summer. We have now 28 January and February pigs that have never felt a ring. They went on clover pasture early in April, and have never rooted any. We also have near 40 April and May pigs. They have done no damage rooting or getting out of place.

We notice this hot weather that the wire fence is getting very loose, and that the horses, reaching over it, from the pasture field to eat rye, have rubbed out several pickets, yet the pigs do not get into the rye field. We know if they were not well fed, they would soon find their way into the rye.

It is not worth while to stuff a pig on corn, thinking this will stop him from creeping. No! No! His system demands something more, and he will creep and root for it, if it is not fed to him.

Sometimes we allow the young pigs in the fall, when we are gathering corn, to run over the fields and get the scattered corn where the corn piles were when husked from the shock—the fields being sown to wheat.

We have seen farmers that would at once "raise Cain" to see their pigs on a field of wheat just sown. We have had them glean corn for days at a time, without their feeding on the wheat so close under their noses. When we know they have found the wheat their privilege is at once cut off. If they were not well fed when they started to do this gleaning, and were in the habit of rooting for a part or all of their living, they would be after the wheat as soon as they got in the field, and would hardly keep their noses up to go from one shock to another.

We try to have our pigs where they can get some grass at all times, and limit the amount of corn they eat by feeding bran and middlings in abundance; also aim to give them good quantities of wood ashes.

If our readers will look the matter up, they will find that in this combination we have everything that the pig needs to build up his body, excepting water, and this is always to be had in abundance from living, never failing sources. What need has a pig to root and be "everlastingly" in mischief when he is full and contented? Why should he expend muscle rooting for worms, when he is fed from his owner's hand all he gets out of these creeping, twisting insects?

Because a pig sometimes gets out of his enclosure, we do not at once as-

sume that he is in mischief unless we know he is doing something wrong. Give the pig liberty as long as he is orderly. If he is properly fed he is usually happy and well behaved.

JOHN M. JAMISON.

PARASITES IN SHEEP.

Of all the parasites which infest the sheep, the greatest losses occur from what are known as lung worms. The worms are from two to four inches in length, needle-shaped and either yellowish or whitish in color. These worms are known to scientists as strongylus filaria or strongylus bronchialis and are found in the bronchial tubes or scattered throughout the lungs of the affected animals. How these worms reach the lungs of the sheep is as yet a matter of conjecture. There are two stages in the disease affecting animals infested by these worms. The first is while the germs are encysted in the lung tissues, producing what is generally thought to be tuberculosis, there being a number of small hard nodules, often not exceeding in size a pin's head, which if squeezed is found to contain the hard body referred to, which appears to be formed for the protection of the egg within. These eggs hatch, and the worm then escapes into the open passage of the lungs, and appears in its mature form. This is the second stage of the disease, the worms taking up their abode in the bronchial tubes and the trachea, or windpipe, where they often become knotted into loose masses or balls, covered with mucus. When this stage is reached, unless relief is at once afforded the affected animal dies. This is the stage of the disease with which flock-masters are best acquainted, as the worms are readily discovered if the animal's carcass is examined after death. As soon as they reach the bronchial tubes or windpipe catarrhal symptoms appear, and gradually become more aggravated until the animal dies. Lambs under one year old are nearly always the victims of these parasites. So far as known the only way the germs of these worms find an entrance to the lungs is through their adhering to the grass in pastures and are thus swallowed with their food by the sheep.

The symptoms of the presence of these parasites is a pallid skin, known to the shepherd as "paper skin." Then an excrescence or swelling forms under the skin, filled with a watery fluid. When this stage is reached the animal never recovers. As soon as the shepherd detects the appearance of the symptoms of the disease, active measures for relief should at once be taken. The most certain remedy is turpentine and linseed oil in equal parts, giving a tablespoonful at a time for at least two weeks, the first thing in the morning before the animal is fed. The remedy is much more effective if given on an empty stomach.

As preventive measures copperas mixed with their salt, and kept constantly before the flock is highly recommended. The proportions used are from one-tenth to one-fifth of copperas, finely powdered, to the amount of salt, increasing the amount during wet seasons when the parasites most abound. It is recommended that the salt and copperas be kept before the lambs until they are a year and a half old, alternating clear salt with the mixture every two weeks.

But the well fed and carefully tended flock seldom suffers to any great extent from lung worms. A well fed and vigorous lamb seems to be able to throw off or live through the attacks of these parasites until it becomes old enough to escape their attacks altogether. Flocks in localities which have limestone soils and are well drained are comparatively free from these worms, except in very wet seasons, and when they occur the lambs should be given extra care, and not allowed in the pasture until the dew is well off the grass. Feed bran and a little oil meal morning and evening, and keep the lambs growing all the time. Take a look at each one every few days, and if their skin does not have the pinky hue of sound health, begin giving the turpentine and linseed oil. It is a case where constant vigilance is the only surety against disaster.

The sheep provinces of Australia are suffering from a severe drouth, which threatens to be as disastrous as that of 1895, when flocks were reduced over 12,000,000 head.

THE PREPARATION OF WOOL FOR MARKET.

From Our Special English Correspondent.

At the last monthly meeting of the Bradford Chamber of Commerce some discussion took place relative to the very unbusiness-like manner in which certain English and Colonial sheep farmers sent their wool to market, and it was resolved that a letter should be sent out to the varied chambers of commerce asking their co-operation on this important subject. It was pointed out that several sheep farmers were still addicted to the old-fashioned and unbusiness-like method of tying up their fleeces with sisal twine, and that as a result it created endless trouble and difficulty afterwards.

Those who have opportunity of examining wools received from all ports are better able to realize the important part that a little care in the preparation of wool plays in the market, what it means to those concerned, and that there is nothing to be lost by properly sorting the wool, whether for Bradford, London or any other market in the world. The experience of recent years has shown conclusively that all wool growers must pay more attention to the manner in which their wools are prepared for market. On the surface it may look superfluous to remind sheep owners to keep out of the fleeces all dung locks, loose tags, sticks and stuff from the floor of the shearing pen, but such advice needs to-day enforcing as much as ever. All these tags and refuse should be packed separately, and sold on their merits. If dung locks adhere to the wool when shearing, either clip them off and throw them away or pack them separately. The grower will get an immediate advantage in price by taking this course as well as by keeping out of his fleeces the refuse of the shearing shed, for wools which arrive in a chaffy or seedy condition are always reduced from 1-2d to 2d per lb., and it is often the case that these wools have contracted this foreign matter during the shearing process.

Many growers still fail to realize the injury to their wools resulting from the use of sisal twine, and it is against this that Bradford objects. This use of string is not so much found in Australasian and Cape wools as it used to be, but here and there one stumbles across a bale which is literally spoiled by the fleeces being tied up with this twine. The use of sisal twine is very objectionable, owing to the releasing of the fibres, which become attached to the wool and cause great anxiety to the manufacturer, it being impossible to prevent them from getting all mixed up with the wool fibres, which in the varied processes of manufacture still adhere to the wool, finally appearing in the woven and finished fabric. These loose, fluffy fibres will neither dye, nor felt, nor do anything like wool will, consequently imperfections are caused in the finished cloth. Then this sisal twine only costs 2d or 3d per lb., but is weighed with wool costing from 6d to 9d per lb., so that the manufacturer or consumer has to make a reduction in price sufficient to protect himself against loss in weight alone. We would here say distinctly that there is no necessity whatever to tie up shorn fleeces, but if growers will persist in adopting this antiquated way, they should then be tied with hemp twine, which has a glazed surface, it being also stronger and lighter than any other.

But we again say plainly that shorn fleeces have no need whatever to be tied with anything. One has only to think of the valuable time to be spent both in tying up the fleece and then in loosing it down to see how unnecessary it is. We have seen days spent by men in loosing down tied up fleeces, and the work accomplished has been such that both men and masters were dissatisfied. All that sheep farmers have need to do in proper handling the shorn fleece, is simply to remove the bellies, britch, and anything of a heavy and objectionable nature, but if a thousand or more shorn fleeces have to be dealt with a more detailed and elaborate way of preparing them for market should and can be adopted to the advantage of both seller, buyer and consumer. In these days of keen competition and with wool clips increasing right and left, it must be obvious to every thinking farmer or squatter that when a buyer sees a clip properly prepared for market, he must know that

attention will be given to it far more than if it was done up anyway or no way.

AGRICOLA.

STOCK NOTES.

Texas cattle feeders all made money last season, and now that plenty of feed is assured they are all after more cattle. But feeding cattle are scarce and high, and it is not likely they will be able to increase the number fed as much as they would like to.

Meat Trades Journal: During the past week no fewer than fifteen steamers landed live stock and fresh meat at Liverpool from American and Canadian ports, bringing a total of 7,759 cattle, 6,625 sheep and 21,898 quarters of beef, which, compared with the arrivals of the preceding week, shows an increase of 2,786 cattle, 968 sheep and 6,038 quarters of beef.

A Mr. Hooley, a London speculator, has undertaken the promotion of a scheme to form a "mutton trust" among the producers, shippers, and importers of Australia, New Zealand, and South America by which a penny may be added to the price of every pound of imported frozen mutton, if a company be organized. With a capital of \$25,000,000 Mr. Hooley's profits out of the deal could hardly be less than \$3,500,000.

For the past five years the annual shrinkage in the supply of cattle has averaged 1,300,000 head. The decrease between 1896 and 1897 was very great. In the corn-feeding states in this time, cattle have decreased 565,945 head, while cows have fallen off to the extent of 91,989 head. In the range country the decrease in steers was 365,492, and cows, 24,263. In the seven middle states steers shrunk in numbers, 128,418, and cows, 40,504. These figures prove that under prosperous industrial conditions there should be a great future for beef cattle.

Chas. Upton, of Genesee, has sold to J. A. Button & Co. one of the finest clips of washed fine wool brought to the city this spring. There were over 1,200 pounds in the clip and the price paid was 16 cents. The wool was from a cross of improved Blacktop Delaines, of which Mr. Upton has a small representative flock of full bloods.—Genesee Democrat. The price paid by friend Button for that clip shows it was of extra quality, for Jim knows wool when he sees it. By the way, this is just the class of wool which comes into competition with skirted fleeces of Australia, and which a few manufacturers and all free trade politicians insist cannot be grown in this country. Hence weak-kneed protectionists allow it to be discriminated against.

The Horse.

NOT GOOD ADVICE.

An agricultural contemporary publishes this advice to its readers regarding the care of their horses:

"Always water your horse the first thing in the morning, and do not let the water be too cold. If it is too cold you will probably have a case of colic. Water is best when it is about ten degrees warmer than the outside air in winter, and as much cooler in summer."

"Give the hay before the grain so that the stomach may be partially filled before the concentrated food gets into it. Better still, feed chopped feed. Mix the ground grain with dampened hay or fodder, and give the largest feed at night, when the horse has time to digest it. Fat and food for the muscles are made when the horse is at rest."

"Cut feed, moistened and mixed with finely ground meal, being much more easily digested, is preferable to whole grain and uncut hay. The saving of food is another reason. Where whole grain is fed a considerable portion of it is voided undigested in the excrement. Of course it does little or no good. The best cut feed is made by mixing cut clover hay, moistened with oats and corn ground together. On this feed horses will work day after day, and if care is taken not to gall their shoulders in beginning they will gain flesh while working."

If such a diet as this was prescribed for horses with bad teeth, there might be some value in it. But for the horse with good teeth and in sound health, no more harmful course could be prescribed than to soak his grain in water. To keep a horse's digestive organs in good shape, feed him his corn and oats dry, also his hay. Let him chew it thoroughly, as it must be when dry before it can be swallowed. Under such conditions it will be thoroughly mixed with the saliva, a secretion provided by nature to aid in the

work of digesting the food. When the food is thoroughly mixed with saliva the starchy portions of the grain are partially digested before it reaches the stomach. The drier the food the greater the flow of the saliva. Nature provides just what is required to enable the horse to properly digest its food. First its teeth grind the food into small particles, then the action of the jaws induces a copious flow of saliva, which becomes thoroughly mixed with it, and the mass reaches the animal's stomach in the best possible condition for the action of that organ. If the grain is softened by soaking it in water it is only partially chewed, and the wet grain does not get mixed with the saliva, the secretion of which is only stimulated by dry food. Hence we have colics and often derangements of the stomach as a result of trying to outdo natural processes in the animal economy. Referring to this subject some months ago we said: "The best way to test this question is to experiment with yourself. Take a dry cracker, chew it slowly and thoroughly, and see how quickly the flow of saliva takes away its dryness and sweetens its taste. It is then in perfect condition for digestion, and therefore for nourishing the system. Now soak a cracker in water and chew it. What is the difference? It is tasteless; chewing it does not cause the free flow of saliva noted with the dry cracker, and it goes into your mouth in bad shape for digestion. If dyspeptics, either human beings or animals, are compelled to eat their food dry, especially when it is of a starchy nature, only drinking after through eating, they will soon get over their troubles. For horses disposed to flatulent colic everything should be fed dry to compel them to masticate their food thoroughly."

HORSE GOSSIP.

Pilot Medium has a good campaigner in Pilot Boy, 2:10½, and the young pacer Captain Russell, full brother to Jack, 2:12, is said to be a good one, and very promising.

The Pennsylvania State Fair, to be held September 6 to 11 inclusive, will give \$6,000 in speed premiums, and nearly \$20,000 in other premiums. The Fair is to be held at Johnstown this year.

The offices of the American Trotting Registry Association have been removed from the Old Colony building to Room 1103 Ellsworth building, No. 355 Dearborn street, Chicago.

Since Robbie P. arrived in Europe he has shown a mile in 2:13, and is expected to beat the fastest horses there when given the opportunity. His American record is 2:10½.

A Frenchman, M. Adry, has purchased and shipped home from Kentucky twelve well bred trotters, among them some high class brood mares. It looks as if he was going to breed American trotters.

A careless groom left a three-tined fork, prongs up, in the stall of the stallion Messenger Wilkes, owned at Goshen, N. Y. During the night the horse ran the prongs into his abdomen and literally ripped his stomach out, causing his death.

A firm of dealers at Grass Lake, this State, recently sold to New York parties two pairs of trotting-bred coach horses for the reported price of \$3,000. Three of these horses were sired by Greenbacks, and the other by Nuttallwood, son of Nutwood.

Buffalo is to have a trotting meeting, but the track is located on the Canadian side of the Niagara river. We hope it will be a more reputable affair than the race meetings held on the Canadian side, opposite Detroit, where everything goes, from petty larceny to highway robbery.

The Salisbury stables carries a barrel of blue mud to use on the legs and feet of the horses. It comes from the bay in California, and is always cool, even in the middle of a hot day. It is a kind of clay and is a little salty and is considered the greatest stuff yet discovered for hoof packing.

A new comer to the American turf is J. Stanley Curtis, who is a South African millionaire, and has a racing stable in the diamond fields. His horses will be shipped to the United States, a stock farm purchased, with a number of choicely bred American yearlings, and Mr. Curtis will become an active participant in racing contests on eastern courses. He will probably purchase a farm in northern

Virginia, the early home of the thoroughbred in the United States.

At a sale of yearling thoroughbreds in New York last week, a colt by imp. St. Blaise, dam Etiquette by Enquirer, brought \$4,100. Of course this is fine breeding, but it is a good price to pay for a yearling. Another by imp. Quicklime, dam Bracelet by imp. Mr. Pickwick (sire of the great Dobbins), brought \$2,000. Both of these colts were bought by Marcus Daly.

The English government subsidizes annually a large number of race horses and these are traveled through the various districts to which they are allotted by the royal commission on horse breeding for the benefit of the farmer breeders who obtain their services at a nominal fee, the thousand dollar subsidy, together with the aggregate of the many small fees received, remunerating the owner handsomely for the horse's season. It is to pick up the horses bred this way and offered for sale that the agents of the governments of continental Europe attend the British fairs, and it was with the knowledge born of experience that the British government determined to subsidize thoroughbred stallions to travel the breeding districts in order to increase the supply of suitable remounts.

Johnston's mile in 2:06¼ to high-wheel sulky is still the record, John R. Gentry's attempt to beat it recently being a failure. His time was 2:07¼. It is well to remember, also, that Maud S.'s 2:08¾, made at Cleveland, September 30, 1885, to high-wheel sulky, has never been equalled since. The question naturally arises whether the increase of speed at the trot and pace does not come from appliances which aid the horses rather than from any increase in the speed of the animals. We would like to see Joe Patchen take a shy at Johnston's record after being trained to a high-wheel sulky for a time. Johnston's record was made at Chicago, Oct. 3, 1884, nearly 13 years ago, and seems likely to be the record for some time yet. In running we have seen the time cut down from Herzog's 1:43¼ in 1870, to Libertine's 1:38¾ at Chicago in 1894, conditions with runners being practically the same at both dates.

The Realization stakes of \$25,000 (of which the winner got \$20,000), were run for on Saturday of last week over the Sheephead Bay track. The distance is one mile and five furlongs, and there were seven starters, namely, The Friar, Rensselaer, Buddha, Dr. Sheppard, Calderon, Haphazard, and Scottish Chieftain. They finished in the order named, The Friar taking the lead at the start, and nothing headed him till he went under the wire an easy winner by a length and a half. The favorite, Scottish Chieftain, was last, and the second choice finished in second place. The Friar's previous races were not at all remarkable, and his sudden change of form is attributed to his jockey letting him have his own way, and not choking him back early in the race. The time, 2:48 2-5, is within two-fifths of a second of the record, and had the horse been pushed it would have surely been lowered by several seconds. The Friar is by the English sire, Friar's Balsam, regarded in England as the best son of Hermit. He combines such racing strains as those of Touchstone, Stockwell and Voltaire. On Monday, in the Brighton Handicap, one and a quarter miles, The Friar was beaten easily by Ben Brush in slow time. Undoubtedly his race the previous Saturday took the edge off him. A later report says the stewards of the Coney Island Jockey Club meeting will report to the jockey club in the matter of the running of The Friar, at the meeting to be held at the Brighton Beach race course on Tuesday, July 13. The Friar has been out four times before the Realization stakes and was invariably beaten. In the Tidal and Spendthrift stakes he made a wretched showing, but in the Realization he ran a phenomenal race, winning without an effort. His latest effort in the Brighton Handicap was too much to be allowed to go unnoticed.

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Advice through this department is free to our subscribers. Each communication should state history and symptoms of the case fully; also name and address of the writer. The initials will only be given. When an answer is requested by mail it becomes private practice, and a fee of one dollar must accompany the letter.

Asthma.—Mare ten years old seems to have a cough. She breathes hard, but appetite is good. She does not appear like a horse having heaves. She stood in a stall by a horse that had distemper last spring, but did not take it. I fed hay and corn. W. T. Fenton, Mich.—I think your mare has a light attack of asthma. Give her one dram powdered lobelia, two drams ground licorice, one dram ground nux vomica twice a day. Turn her out to grass. Feed her no dry hay or grain. Wet it with lime water.

Congestion of Sweat Glands of Skin.—Eight-year-old mare in foal was working in the corn field the second of the month. About 9 o'clock in the morning she ceased to perspire and commenced panting badly. She did the same the second morning I worked her. I turned her out to pasture. What can I do for her? J. R. Lawrence, Mich.—Give your mare two drams sulphate potash three times a day. Wash her body with one ounce aromatic spirits ammonia, one-half ounce powdered borax, one-half pint alcohol, one-half gallon water twice a day. Also give her two ounces Glauber salts twice a day.

Sore Udder.—Give cause and remedy for an ailment which is affecting one of my cows. One quarter of her udder is covered with what seem to be blisters. They first appear as a small scab and in a short time the scab falls off and a raw surface remains from which is continually oozing a bloody fluid. Udder does not seem to be sore nor does the cow seem to suffer any. Will it be prudent to use any of the milk from the cow? B. A., Galesburg, Mich.—Apply one ounce acetate of lead, one ounce sulphate of zinc to one quart of cold water three times a day to sores on udder. Wash the udder with tar soap and water before using the lotion. I do not think it wise to use her milk for domestic purposes.

Bronchitis—Asthma.—Am anxious to find out what ails my mare. At times I am unable to back her. She is not able to work. She is now running in pasture and is losing flesh. She breathes very much like a horse with asthma. She perspires very freely. At times she is very hot on one side of head and shoulders. I rather think her lungs are in bad shape. G. H. Breckinridge, Mich.—Wet her feed with lime water. Give her one dram powdered lobelia, two drams ground ginger, two drams powdered wood charcoal and five grains arsenic twice a day. Be sure to wet the dry feed that you give her with lime water. Put one-half pound lime in two gallons water and use the liquid for wetting her feed.

Liver Disease.—Tell me what ails my hogs. One refused to eat last Sunday morning. While eating, he backed up and soon lay down. His breath smelled badly. Skin looked pale. Hog was about six months old. He died after being sick five days. I opened him four hours after death. I found quite a number of white spots in the liver. Lungs were black. H. L. C., Silver Wood.—Give two grains podophyllin and two grains calomel twice a day. Also give enough Epsom salts to act as a cathartic. Allow them to exercise. Be sure that they are supplied with fresh water to drink and a cool, shady, damp place to sleep in. The hot weather will be quite likely to make them worse unless they have a comfortable place.

AYRSHIRES FOR SALE. Three females and one male, bred by and from the famous Elm Valley N. Y. herd of W. G. Tucker & Son. Three famous cows for show or dairy purposes. Will answer any inquiries in regard to them. W. M. CHAPMAN, Romeo, Mich.

DO YOU FEED FOR PROFIT? **FLIES MILK** **SHOO-FLY** No Flies, Ticks, Worms, or Sore on Cows. If 1 cent is spent in sending 25 cents to Mrs. C. O. Fairmount Ave., Phila., Pa. They will return 1 pint, and guarantee to refund money if cow is not protected. **SHOOT** brought more profitable to 10 and 30 gallon orders in 1896 than ever. Trial gal. \$1.15; last 3 cows a season. Agents wanted.

10¢ Sterling Stock Food 500 Feeds. lbs. A general condition powder for horses, cattle, sheep and hogs. A preventive for hog cholera. Sent on receipt of price. Write to G. W. KENAN, Upper Sandusky, Ohio.

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CATTLE.

J. F. & E. W. ENGLISH, Clarksville, Mich., breeders of registered RED POLLED CATTLE. Olney and Sultan head the herd.

J. M. CHASE, Mulr, Mich., breeder of Red J. Polled Cattle and Poland-China Hogs. 3 good yearling bulls for sale, \$15 each.

JOHN LESSITER & SONS, Cole, Oakland Co., Mich., breeders of Scotch bred Shorthorns. Fine young bulls and heifers for sale. Also Shropshire sheep.

REGISTERED HOLSTEINS of both sexes and all ages for sale from my World's Fair prize-winning herd. 50 head to select from. Prices low. Terms easy. B. F. THOMPSON, Detroit, Mich.

SHEEP.

HAMPSHIRE SHEEP FOR SALE.—A choice lot of all ages and both sexes. Prairie Castle Farm. J. H. TAFT, Mendon, St. Joe Co., Mich.

Feeding Lambs Furnished

for fall delivery in numbers to suit. Choice registered Shropshires for sale. W. BINGHAM, Vernon, Mich.

SHROPSHIRE HALL STOCK FARM.—A grand lot yearling rams from imported stock, good enough to head any flock. Also yearling and two-year-old ewes bred to choice rams; ewe and ram lambs; none better. L. S. Dunham, Concord, Mich.

ANCHORWOOD FARM, Flint, Mich.—Registered English, Canadian and Michigan bred Oxford Down sheep. Prize winning registered Jerseys. Registered Holsteins. Pure bred black Langshan chickens. A few Oxford Down ram lambs for sale, from imported sire and dam. Wanted a few registered Holstein calves. Address ANCHORWOOD FARM, Lock Box 1622, Flint, Mich.

HOGS.

COUNTY LINE HERD OF POLAND-CHINA SWINE.—Pigs ready to ship. Young sows bred for sale. E. D. BISHOP, Woodbury, Mich.

LARGE ENGLISH BERKSHIRE SWINE of the best strains for sale. Write for breeding and prices. C. E. FAITHORP & CO., Mt. Morris, Mich.

LARGE ENGLISH BERKSHIRE SWINE, highly bred, from leading families. Write for prices. V. E. HACKNEY, Mt. Morris, Mich.

R. M. CROSS, Ovid, Mich., breeder of Victoria swine. Stock for sale. Breeding stock all recorded. Reasonable prices. Correspondence solicited.

LARGE ENGLISH BERKSHIRES and SHROPSHIRE. Sheep highly bred. Call or address. MERCHANT KELLEY, Woodstock, Mich.

POLAND-CHINAS.—March, April and May pigs. Pairs not akin. Prices reasonable. F. M. PIGGOTT, Fowler, Clinton Co., Mich.

POLAND-CHINA PIGS ready to ship. Send for catalogue. E. A. CHOMAN, Box 99, Grass Lake, Mich.

SAVE express by ordering a Poland-China pig now from Hickory Grove. A. A. WOOD, Saline, Mich.

POLAND-CHINAS. Large, and popular strains of English, blood. Quality and breeding combined. Now booking orders for spring pigs. L. W. BARNES, Byron, Shiawassee Co., Mich.

THE PLUM HILL HERD of Berkshire swine Shorthorn cattle, B. P. Rock and S. P. Hamburg fowls. Stock and eggs for sale. C. M. BRAY, St. Johns, Mich.

N. A. CLAPP, Wilmot, Mich., BREEDER OF Large English Berkshire Swine. Write for prices.

WE can give you BARGAINS in POLAND-CHINA PIGS and B. P. R., two grand yards. Eggs 15 for \$1. Write WILLARD PERRY or Hastings, M. H. BURTON, Mich.

Special Sale of Chester Whites at CASS VALLEY FARM. Lot of fall and spring pigs, dandies, at ½ their value. Write to-day and secure a bargain. W. W. BALCH, Deford, Mich.

I SOLD CORWIN KING for \$200 at 7 years. He now heads the oldest herd in Iowa. If you want TOP POLAND-CHINAS write WM. H. COOK, Waterford, Mich.

W. O. WILSON, Okemos, Mich., proprietor of the Michigan Central herd of IMPROVED CHESTER WHITES. I have a few head of '96 stock (both sexes) at reduced prices to make room for new comers. Choice LIGHT BRAHMS. Eggs, 75 cents for 12; 26 for \$1.25.

Farmers' Clubs.

CONDUCTED BY A. C. BIRD.

All correspondence for this department should be addressed to A. C. Bird, Highland, Mich.

OFFICERS OF THE STATE ASSOCIATION OF FARMERS' CLUBS.

PRESIDENT—J. T. Daniels, Union Home.
VICE-PRESIDENT—Patrick Hankard, Henrietta.
SECRETARY-TREAS.—F. D. Wells, Rochester.
DIRECTORS—G. L. Hoyt, Saline; L. H. Ives, Mason; W. H. Howlett, Dansville; C. J. Phelps, Damon; F. M. Whelan, North Newburg; A. L. Landon, Springport.
All communications relating to the organization of new Clubs should be addressed to F. D. Wells, Rochester, Mich.

THE AGRICULTURAL COLLEGE.

Again in this issue we publish an article on the above subject by one of the most practical and successful farmers and fruit growers in Michigan. The unanimity of opinion manifested in this article and in those which have preceded it is most gratifying to the friends of the College. These commendatory words are coming from all parts of the State and from the representative farmers, fruit growers and gardeners. Every one of these contributors is thoroughly acquainted with the College and its work, and writes of that of which he has personal knowledge. They, one and all, base their utterances upon the experience of many years' successful work.

There is one thing, however, to which we wish to again call attention. This discussion is not intended to be a one-sided one. The columns of this department are just as cordially open to just criticism of the work of the College as they are to the words of commendation which have thus far appeared. If there is a practical and successful farmer, fruit grower, gardener, or indeed any one engaged in any branch of practical agriculture, who is acquainted with the work of the College and has views contrary to those already expressed through these columns, we extend a special invitation to such an one to freely express his views in this department. We pledge to all such correspondents that same courtesy and fair treatment which has ever distinguished the policy of The Michigan Farmer since the day of its founding.

THE AGRICULTURAL COLLEGE.

FROM THE STANDPOINT OF A PRACTICAL FRUIT GROWER.

The question for farmers to decide at their club meetings is whether or not they intend to advance and keep abreast with other callings, and take a higher place in the industrial world, or gradually drop back to the station of the farmer of forty years ago? The College needs but little of your financial support but the moral aid you are to give it will largely determine the point. The College has suffered only because farmers were ignorant of the grand work it has accomplished for them and is still doing, and I trust this discussion will bring it into its true light.

Thanks to the investigations and researches of these institutions, agriculture has kept well abreast of all other sciences, and yet the results are now only becoming apparent. To say that farm work has not been lightened and the standing of the farmer advanced in the business world, as well as socially, is to concede you do not know anything about what it has accomplished. It is annually sending young men back to every community who impart to others the new and better methods and discoveries. And thus its influence is permeating the whole State.

The question is are you ready to lend your aid in checking this good work in your own interest, and sink back to primitive methods and be known only as "a hayseed?" It is absolutely impossible to make this progress without the aid of this College. The College must be maintained or the work stopped. If you are not reaping the benefits derived from it, it is your own fault.

As a horticulturist and fruit grower, I insist the College shall be furnished with every facility for doing its work. I have found it exceedingly

profitable to make annual visits to its experimental station and confer with its chiefs and inspect the grounds. It would be a calamity to the fruit growers of Michigan to have its work impaired.

To a young man or woman looking for a thorough and practical training which shall fit them for a life's work, it cannot be surpassed. All professions are crowded and only the most brilliant stand any show of success, but the demand for practical mind developed leaders, men trained to comprehend actual work in the factory and large farms, the demand is very far from being supplied.

It is a notorious fact that the average college curriculum makes a mere book-worm; too wise to work; too proud to beg, and with no knowledge that it can turn to a bread and butter account. All the avenues are already densely crowded and vacancies are not in sight.

The mind stored with knowledge which one cannot use is like money one cannot spend.

Certainly we want the College, and we insist it shall stand on an equal footing with any other institution of the kind in the land.

R. M. KELLOGG.

Three Rivers Mich.

REPORTS OF LOCAL CLUBS.

THE ODESSA FARMERS' CLUB.

On the afternoon of June 19, the Farmers' Club met at the pleasant home of Mr. and Mrs. P. J. Fellows. There is a most beautiful home, overlooking the Jordan Lake, just within the suburbs of the village of Lake Odessa. The day was pleasant and the attendance very good, with the improving interest.

The paper by Secretary O. G. Bretz, "Should farmers discuss political questions?" was worthy of commendation. He recommended to farmers the study of political questions and the discussion of the same.

C. V. Black led the discussion by making a few very practical suggestions. The discussion was then quite general, the general purport of the talk being that we become better versed in civil government; take higher grounds politically, candidly considering and discussing all political questions, with due regard for each others' partisanship. Thus may we be heard in our legislative halls. The thought was expressed that we as an Association may be a wonderful monitor for the good of all the people.

The ladies' topic was, "Dressmaking, and teaching the daughters to sew." Mrs. L. Foght introduced the subject. As she had been caring for a sick mother and had no time to write a paper, she gave a bit of her own experience and made a few suggestions.

Mrs. F. Aldrich followed with interesting remarks, as did nearly all the ladies and some of the gentlemen. All agreed that the daughters should be taught to sew. Some are natural born dressmakers, while others have no taste for sewing. Hence mothers should be very wise.

The Association question was slightly discussed, and the children by their choice recitations added not a little to the interest of the meeting.

C. V. Black, who lives just across the way, has a beautiful fruit farm, and furnished the luscious strawberries for supper.

The next meeting will be entertained by Mr. and Mrs. P. A. Wachs, at Orchard Farm, on the afternoon of July 10. Topics for that meeting are as follows:

"The financial situation of the farmer," by Granville Nye. Discussion led by J. Klahn.

"Should women be enfranchised?" Mrs. P. J. Fellows. Discussion led by Mrs. G. Nye.

MRS. P. A. WACHS, Reporter.
REPORT OF MAPLE RIVER FARMERS' CLUB.

The regular June meeting was held on the 29th ult., with Mr. and Mrs. C. E. Fuller at the home of Mr. and Mrs. R. Fuller in Owosso township. After the opening exercises and the disposal of necessary business, the Club took up the regular program, now and then enlivened with appropriate music.

"What are the chief elements of success in our local Club meetings?" was presented by A. J. Armstrong, who said in part: A good attendance; a good presiding officer; an efficient program committee.

In discussion, President Whelan suggested as the chief element of success, united effort, and always being free to express one's opinion.

E. J. Cook: Study the different topics for each meeting and be ready with your opinion.

Chas. Whelan: We learn to know one another better; free expression is essential.

The question, "Harvesting and storing the clover crop," by Messrs. Sheldon and Purdy followed. Mr. Sheldon said from experience, first get the clover. Clover is first-class hay for everything. Tools should be in good repair and meadow smooth. Do not cut clover in the morning when damp, but towards evening. He believes in putting up in cocks. Cannot make good hay any other way. Likes to cut when rather green. Does not like a hay loader. Could not do without a horse fork.

Mr. Purdy agrees with Mr. Sheldon. Does not like a loader though admitted of never having used one. Hay should be cocked before going into the barn.

Mr. P. B. Reynolds uses a loader. Does not bunch except when forced to.

Mr. Snyder likes to cut in the morning. He does not think the possible extra quality of hay pays for the extra expense in bunching.

Mr. A. B. Cook likes a loader—the right kind. Leaves hay out only one night.

Mr. R. Fuller: Cut quite green. Cock it up. Does not like sun-dried hay.

Mr. C. H. H. Payne does not like to bunch hay, although he follows that method.

Mr. O. C. Moore: Do not ted twice in succession. Cure it either in cocks or windrow.

E. J. Cook: Ordinarily it does not pay to bunch hay; hay should not be teded until it is well wilted.

"The most successful farm fence," by Messrs. Wm. Gladdin and Wm. Lewis.

Mr. Lewis said: Put posts sixteen feet apart. Use nine single wires with five pickets between posts.

Mr. Gladdin: Like the "Cyclone" fence best. Does not like the old slat and wire fence.

Mr. P. B. Reynolds: Does not like a Cyclone fence where one has muley cattle.

The next regular meeting of the Club will be held with Mr. and Mrs. Wm. Lewis, August 26th.

C. P. REYNOLDS, Reporter.
DEERFIELD, ISABELLA COUNTY, FARMERS' CLUB.

The Club met in the grove of Mr. Edward Hamilton on the 17th ult. Dinner was first in order, after which the Club was called to order by the president, John D. Gulick.

Mr. Hamilton gave the address of welcome and T. B. Bozer gave the response by saying that Mr. Hamilton had come here about twenty-five years ago, when this was an unbroken wilderness. He then referred to the white flag flying at the gate, which, he said, meant much in the time of war, meaning that the person who had hoisted it had surrendered; and that in this case our friend had surrendered to us and we were welcome to enjoy the blessings of his home and this beautiful grove today.

George D. Brown led in the discussion, "As to whether the farmer should have free mail delivery," being followed by Messrs. Coomer, Eggleston, Kane and others, all of whom seemed to think that the farmer should be as well favored as his city brothers.

The next meeting was appointed at Rev. A. E. Carmen's on the 15th of July.

Delegates were then appointed to confer with delegates from other clubs in regard to a union picnic, after which Mr. Salisbury read a finely prepared paper on "Is the pure food law a benefit to the farmer?"

The next topic, "Should the farmer assist in building a bicycle path?" was led by Mr. Bozer. He thought that he should not be compelled to pay for anything that does not benefit him, and that those who use and enjoy these things should build the paths. Mr. Rhodes, Mr. Carmen and others led in the discussion. The question box was ably handled by Mr. Rhodes.

A vote of thanks was tendered the host and visitors and all went away feeling that they had had another enjoyable meeting.

N. V. COOMER, Reporter.
NORVELL FARMERS' CLUB.

At the meeting held with John Green on June 26th, President Halladay reported having written to Senator McMillan in behalf of the club regarding the tariff on wool.

The paper for discussion was by A. R. Palmer on "Faults and Difficulties of the Farmer." Among faults named

were: Living in a rut; reluctance to face facts; lack of attention to details; so hurried as to have no time to plan, to attend to little things; employing too little help; attempting more than can be well performed; too many hours of labor; too independent; too credulous (to agents) and not trustful enough (to business men); a tendency to run in debt, especially for tools; tendency to look on the dark side; lack of system; failure to use the means at hand to improve himself, e. g., the agricultural press, Farmers' Institutes, and Clubs.

Among difficulties suggested were: The uncertain weather; changeable seasons; insects and blights; poor and unfaithful help; dishonest competition; bad advisers; the idea involved in Judge Chatterton's assertion that vigorous muscular labor and earnest thought are incompatible.

W. R. Mount said that the sixteen hours of labor which many farmers do at this season is too much.

L. D. Watkins spoke of the difficulty of deciding how much labor to employ. Has let out on shares large portions of his farm this year believing it more profitable than to hire the help to work it.

T. B. Halladay objected to this plan. Too much of the product of the land is carried away and the farm must in time decrease in fertility.

As to the hours of labor, all present said they could rarely get ten hours of actual labor in the field.

Mrs. L. D. Watkins thought we found recreation in a change of work; in doing something we love to do. A most common fault is that we are not willing to take what we give; not willing to receive kindly criticism. We should talk over faults with the guilty one and not with other people.

The club adjourned to Sept. 25.

A. R. PALMER, Sec.

GRASS LAKE FARMERS' CLUB.

The Grass Lake Farmers' Club met June 9th at the home of Mr. and Mrs. Hiram Collins. A large number were in attendance.

After singing and prayer, Mrs. Madison Davis read a selection from The Michigan Farmer on "Farmers' Gardens." The article was followed by an animated discussion, and valuable information on the cultivation and winter preservation of vegetables. One acre was thought to be a good sized garden. The rows marked with stake and line and a horse cultivator used almost entirely in the care. An iron rake was highly recommended for small weeds. The location of the garden should be changed every few years.

E. A. Croman made an asparagus bed by sowing the seed. Uses clean sand on the bed to bleach the shoots. A liberal use of salt is beneficial. He uses a 28-inch drill in sowing garden seed, then drags. Raises Winningstadt and Flat Dutch cabbages and preserves for winter use by putting in barrels and covering with leaves, straw or anything to exclude the light and air.

Mr. Brewer gave what he has found a successful remedy for squash bugs and cabbage worms. Brine and pine tar, one quart of each to a barrel of water. Another "sure cure" given for cabbage worms was salt water.

The club then unanimously changed to the topic of poultry feeding. It was decided that raw corn meal would not do for young chicks. Whole wheat and rye were also declared injurious.

The question was then asked, when shall grass which is a mixture of rye and clover, be cut for hay? Answer: When the clover is ready.

Arthur Clark thought the raising of rye and beans a great mistake. They exhaust the soil and the rye can hardly be gotten rid of. Would plow ground exclusively for clover and a crop is the sure result. His remedy for these times would be less plowing, less grain sowing, less hiring of help and milking more cows.

W. S. Crafts said that farmers had been forced to raise rye and it has many uses. One bushel of rye equals one bushel of corn, and pigs will leave corn for rye.

William Smith thought that rye was valuable as a pasture and as a crop with which to seed clover.

E. A. Croman: Permanent pasturage is what is needed on our farms. Orchard grass is good for the purpose, seeded with oats and rye.

So much time had been consumed that the Association question was not taken up.

After a bountiful repast and a few pleasant words all around, the club adjourned to meet Sept. 2nd at the home of Mr. and Mrs. Alfred Hookeray.

The past year has been one of unprecedented success in the history of this club, and with the prospect of the same valuable help from the State Association, and the outlines of the next year's work already made out, the club collectively and individually feel that a still more prosperous year will follow the summer vacation.

E. W. CRAFTS, Cor. Sec.
GRAND BLANC FARMERS' CLUB.

The Grand Blanc Farmers' Club meeting of June was held in Davis' Hall, with President Stuart presiding. After the usual routine of business, the evening was given to Hon. D. P. Dewey and daughter, Addie, who recently returned from a stay of several months in California, and had kindly consented to give the club a talk on what they saw.

Miss Addie's paper was full of good things. They went by the Union Pacific route. The scenery through the prairie was very monotonous, but the grandeur of the mountains impressed her with a feeling of awe. Their arrival at San Francisco, and escape from the mob of hackmen was pictured. The view of the famous Golden Gate, and the graceful, beautiful sea gulls, were each described. One thing that impressed her was the beautiful complexion of the California people. Both men and women had the clear, rosy tint, which she had made up her mind only existed in the imagination of story writers. The profusion of beautiful, fragrant flowers were a constant delight. Oakland, a suburb of San Francisco, is said to be the most beautiful suburb in the United States. Its streets are shaded by live oaks, which are covered with foliage the year round. It has a complete line of street railway, which is free to the inhabitants. A day spent on the Pacific beach was a delight. The great ocean with its great green waves and ceaseless roar, made one feel that they were but a small part in the great creative plan. And how one could look on these and say there was not a Creator back of it all she could not see. Near the glen where they spent the summer were geysers. She drank delicious, hot soda water from Nature's soda fountain. Our weather last May was very much like the winter there. No matter how high the mercury went it was none too warm for a Californian, although she failed to see the difference between a hot day there and here. The fruit was fine, but the apples not quite as good as those grown in the home orchards at Grand Blanc. There was a noticeable lack of thrift. They seemed to have reversed the order of the old adage, "Business before pleasure."

Mr. Dewey followed his daughter with a talk, taking up the trip at starting and describing different points of interest as they went along. He talked an hour and half, and many wished he had talked as long again. Meeting adjourned to July.

REPORTER.

THE WOODSTOCK FARMERS' CLUB.

This Association was organized January 9, 1891, at the home of Mr. and Mrs. Wm. H. Harris. Nineteen were present to sign the preamble, constitution and by-laws. At the end of the first year the club numbered eighty-one and was in good working order. The meetings have been held monthly, occurring on the third Saturday of each month, at the homes of different members. The club has been steadily growing and now numbers 129 members. There has always been a lively interest manifested in the club work and many questions of importance have been discussed. The club has become a member of the Michigan State Association of Farmers' Clubs and hopes to derive much benefit from so doing.

Our last regular meeting was held at the home of Mr. and Mrs. Joel Iveson, June 19, with about seventy present. An enjoyable time was spent by all.

The Secretary read a communication relative to the "tariff on wool," which was fully discussed; also one from the Michigan Farmer. It was decided that the club send reports of their meetings to The Farmer. A very interesting program was rendered and the questions, "What rotation of crops is the best adapted to farmers of this vicinity?" and "Successful turkey raising," were discussed, the former by the gentlemen, the latter by the ladies.

The prevailing ideas about the rotation of crops were: First, sod plowed and planted to corn, then oats, followed by wheat.

To be a successful turkey raiser one must keep them dry and free from lice, keeping their coops on sand rather than grass.

The July meeting has been taken up on account of the warm weather, work,

etc. The annual Union picnic of the Cambridge and Woodstock Farmers' Clubs will meet at Sand Lake the second Saturday in August. No other meeting will be held that month, but on the third Saturday in September the club will take up its regular work again, when it will meet at the home of Mr. and Mrs. Wm. H. Harris, where we were first organized.

MRS. J. H. TRUMBULL, Club Reporter.
FULTON CENTER FARMERS' CLUB.

The Fulton Center Farmers' Club met at the home of Mr. and Mrs. Wm. Foster, with the usual number present.

Meeting was called to order by President Sessions, and after the usual literary exercises were gone through with the general question of the day was taken up, "How can we best bring it about to have our Township Board give to the people a printed report of their yearly proceedings?"

The discussion of the same was good. It was decided that there should be such a report given, and that it was the opinion of nearly all that this could be successfully done through a motion at the township meetings.

The Association question was then taken up. Discussion led by Mr. Wm. Foster.

He thought the chief element of success was the information that one received by the different discussions of experiments that the members had had in the past, both as successes and failures.

Mr. Joseph Foster thought that the actual part that the members took in the different discussions would be the chief element of success. While others thought that the actual attendance and solicitation of new members should be added.

A communication from Gov. Pingree was next read by Mr. Joseph Foster, relating to taxing railroads. This matter was thoroughly discussed and a resolution passed by the club stating that they thought that railroads should be taxed on the same basis with other property, and urging the passage of a law in accordance with the same.

The meeting closed, to meet the first Thursday in July at the home of our president, Mr. S. Sessions.

O. N. CHAFFIN, Sec.
SOUTH VERNON FARMERS' CLUB.

The South Vernon Farmers' Club met at the home of Mr. and Mrs. Van Alstine, July 1st.

As many farmers were engaged in haying, the attendance was rather light, which necessitated a short program.

After the literary exercises the question, whether the credit system is beneficial to the farmer, was discussed.

The majority of those present thought if the farmer paid for his goods when he bought them he would save money by doing so.

The following officers were elected to serve for the next six months: President, L. Van Alstine; Vice-President, George Carruthers; Secretary, Martha Van Alstine; Treasurer, Mrs. D. Williams; Chorister, N. J. Strong; Organist, Nettie Clark.

The club adjourned to meet with Mr. and Mrs. Strong September 2d.

REPORTER.

HOLLY CENTER FARMERS' CLUB.

The July meeting of the Holly Center Farmers' Club was held at the residence of Mr. and Mrs. R. K. Devine. In the absence of both the president and vice-president the meeting was called to order by the secretary and Mr. Devine appointed chairman.

After the literary exercises, the Governor's special message on the taxation of railroad companies was discussed by the club.

The discussion was opened by Messrs. Green and Austin, who not only endorsed the Governor's message, but thought that all corporate property should be taxed the same as that of the individual.

Mr. Shields endorsed all the message except that part which recommended the creation of a department of taxes and assessments, to be composed of a board to be appointed by the Governor, and to include some if not all the officials who now control the corporation. He thought it would be an unnecessary expense.

The Rev. Mr. Buck said he had not read the message, but as president of a village some years ago he had some experience of the inequality of our present tax system. The owners of personal property do not pay their just proportion of the taxes and the burden of taxation falls principally upon the owners of real estate.

Mr. Downey thought that Mr. Shields' position was well taken, that railroad and corporate property should be assessed the same as other property.

Mr. Devine then discussed the subject, showing the injustice of the present system of taxing railroad companies. He thought the people ought to agitate the question until our legislators would be compelled to take some action that would compel all corporate companies to pay their just proportion of taxes. He also spoke of the exorbitant prices which railroads charge for the transportation of the United States mails.

The next meeting of the club will be held Aug. 5th, on the banks of Fagan lake, when the subject for discussion will be "What is the highest duty we owe our country at the present time?"

REPORTER.

NORTH PLAINS FARMERS' CLUB.

The June meeting met, as usual, at the Grange hall. After the usual program came the reading of two communications from the Lebanon Club, asking the club to participate with them in a picnic July 3. The invitation was accepted.

A well read paper on "Home Sanitation," by Mrs. D. S. Waldron, followed. The writer thought an abundance of fresh air and frequent bathing were the most essential. The most celebrated doctors say that truly scrofulous diseases are invariably caused by breathing air vitiated by respiration. She thought of all places in the country where air was so breathed. Sabbath day in church in the winter was the best illustration. Hardly any church has the least plan of ventilation, and the audience sits there breathing not only the breath of tobacco and disease, but the air is poisoned with the excreta of many persons who had not taken a bath in—well, a long time. The services over, the house is at once closed and the same air locked up for another Sabbath. No wonders "church sleepers" are proverbial. Bedding in constant use should be taken out and exposed to the sun and air every few days, and the bed and room should be well aired every morning. Another great factor was to keep good-natured, to have sunshine in the home and in the heart.

The lovers of the piscatorial art were much interested by the talk of H. M. Brown, on "Brook Trout, and How to Raise and Catch Them."

A. M. Knapp's paper on "The Farmer's Education," was well read: He thought the subject embraced too much to be taken up at one time. Thought that farmers did not as a class fit themselves for their work as other professions did; then wondered why they were not successful. Thought a good education was most essential; that it gave a greater interest to farming and enjoyment to its pursuit by joining labor with thought and associating mind and hand in our daily avocations; also to be well up-to-date in all that could be gathered from good farm journals. Other members spoke on the same subject.

Questions: Is it important to remove the rye from the wheat? Yes, and most of the farmers are doing so in this vicinity. What can be done for inflammation of the stomach in chickens? Giving Venetian red was recommended. How can we get rid of chicken lice? By using Scotch snuff. One lady mentioned a machine made by Mr. Shields, of Ionia, for blowing them out, said to be very successful.

H. COE, Secretary.

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DETROIT, SATURDAY JULY 17, 1897.

This paper is entered at the Detroit Postoffice as second class matter.

A SUMMER VACATION.

An Enjoyable One Planned for the Friends of The Michigan Farmer.

It has become a usual practice with the people of the United States to select some time during the heat of summer in which to take a short vacation from the toll and care connected with their avocations. In many ways the practice is a good one, and the time so spent is never lost. The rapidity and cheapness of travel as compared with even a few years ago, the comforts and pleasures which the traveler meets with on every hand, the opportunities it affords for observation, the intercourse with people from distant cities and states, the knowledge gained of localities passed through and visited, all have a tendency to broaden the mind and add to the real pleasures of life through the greater capacity they give us for enjoyment. There is nothing which will educate a person more quickly than travel, or make them more pleasant and valuable as acquaintances and friends. It makes people forget the little things of life, and look at humanity from a broader, more liberal and tolerant standpoint.

Now that the short breathing time which comes to the farmer after his grain crops are harvested will soon be here, it has occurred to the publishers that a short vacation might be planned in which the publishers, editors, correspondents and readers of The Farmer could join, and enjoy a few days of social intercourse while visiting some points of general interest in our State. In thinking it over, it appeared to them that for most people at this season of the year a trip by water would be the most pleasant and afford the greatest enjoyment, and that the grand lakes which surround Michigan and make it the most beautiful and favored of States, would certainly furnish the most agreeable route, and the most certain means of escaping from the heat and worry of the hot August days, which are always a severe trial to the farmer and his household, as well as the business man.

With this object in view, and after examining a number of routes and the special advantages they offered, the publishers of The Farmer finally decided to engage the elegant steamship

City of Mackinaw, of the Detroit and Cleveland line, to start with an excursion party at 11 p. m. on Friday, August 23d, passing through the Detroit river, Lake St. Clair, St. Clair River, and thence up Lake Huron to the head of the Lower Peninsula, and stopping at the Island of Mackinaw, which will be reached on Wednesday morning. Then returning by the same route, and reaching Detroit on Thursday, August 26th, at 8:30 a. m. Or those who prefer can stay at Mackinaw until Thursday, at 3 p. m., and arrive in Detroit on Friday, August 27th at 3:30 p. m.

For this route, which is really the finest one on the great lakes, a specially low figure, including meals while on board, and state rooms, has been secured, which will be made known to our friends upon application, as they are confidential.

The steamship is one of the finest on the upper lakes, and everything possible is done by the managers and officials which will add to the comfort and pleasure of their passengers.

We expect to welcome a fine party of the friends of The Farmer on August 23d, and that the succeeding few days will prove extremely pleasant ones, and long to be remembered by those who take part in this excursion. Write at once to this office for full particulars, which will be sent by return mail, and then come and bring your wife, and any members of your household. We feel sure that after a few days of enjoyment on the water, with pleasant companionship and everything to make the occasion enjoyable, you will return home with nothing but pleasant memories of the first excursion of The Michigan Farmer and its friends, and greatly benefited both in mind and body.

THE TARIFF BILL.

From the reports which reach us of the doings of the conference committee, we should regard the following questions as settled: First, there will be a \$2 tariff on pine lumber. Second, there will be a duty of 1½ cents per lb. on foreign hides. Third, the duty on wools of the first and second class will probably be 11 cents, instead of 10 and 11, as adopted by the House. There is also a compromise proposition being considered looking to fixing a rate of 3 cents a pound on all wool of a value less than 10 cents a pound, of 5 cents on wool valued at more than 10 cents and less than 13 cents a pound, and of 8 cents on that above 13 cents a pound in value. So far the interests of the wool-growers have been shown some consideration; but the attempt on the part of some of the members to secure higher duties on skirted wools has failed, which means a duty on these fleeces of not more than 7, or at most, 8 cents per pound, while nominally it is 11 cents. Of course nothing but skirted wools will be imported under such conditions, and the manufacturers will secure compensatory duties on their goods at the rate of 11 cents. Outside of this clause of the wool schedule, the interests of farmers have been well cared for. We regard the \$2 rate on lumber, however, as both unwise and unnecessary, and future events will prove it to be so.

A Berrien County farmer is reported to have shipped thirty-two cases of strawberries to a Cleveland, Ohio, commission house. The day the strawberries arrived the wholesale price was quoted as 60 cents per case. The grower received from the firm a check for \$1.38 as the net proceeds of the shipment. We wonder why the \$1.38 was sent. The firm might as well have kept it also. If there is one thing that requires looking after by our law makers, it is the produce commission busi-

ness. The methods of many firms would do credit to a highway robber. Hotels have special laws to protect them in collecting their debts, so do laboring men who work on buildings, etc. Why should not the farmer, who is compelled to trust his property to commission dealers, have a law to protect him? The large cities are full of men who make a practice of swindling every farmer who consigns them a shipment of produce, and the consignors are powerless to protect themselves.

As showing how thoughtful members of the profession regard the present status of the legal fraternity in its relation to the community, we copy the following extract from an address by Clarence Darrow before the Bar Association of Chicago, of which Mr. Darrow is a leading member:

The great corporations and aggregations of capital are always jealous to preserve the rights they have and to gain new privileges and greater power. It follows that the ablest lawyers are always employed to serve the greedy and the strong. Whatever lawyers may once have been, they are to-day mere machines for getting money, viewing life and its duties and responsibilities in exactly the same way as the pawnbroker and the trust promoter. Their talents are for sale to the highest bidder and the corporation and syndicate are the highest bidders.

When a member of the legal profession refers to it in such terms, is it not pretty good evidence that it is time to take out of the hands of its members the great powers they have always exercised in shaping legislation and preparing laws for the government of the country? The courts of justice to-day are the most costly and unsatisfactory of modern appliances, and they are becoming more so as lawyers increase, and are compelled by their necessities to prey upon society. Yet every college and university is doing what it can to increase the number until they are becoming as pestiferous as the plagues of Egypt. Just how the long-suffering masses are to be emancipated from their exactions is one of the great problems of the future.

Mr. S. Lathrop, of Macomb county, sends the following query: "As a farmer I wish to know why, if I have mail come to the office, that it may not be placed in a box open to view without being asked to pay rent? Ought not the government to furnish these boxes free to country people, while residents of cities receive their mail at their own door? The amount charged is small, but is it just when all mail is paid in advance?" The only reason we know why rent is asked for boxes is because it is lawful. As to its justice, we are much of the opinion of our correspondent. A postage stamp should do as much for the resident of the country as of the city—but it never has yet.

Recently published statistics show that during the year 1894 there were the following amounts of gin and rum exported to Africa: Senegambia, 22,368 gallons; Sierra Leone, 242,636 gallons; the gold coast, 1,302,899 gallons; Lagos, 1,863,631 gallons; the Niger coast protectorate, 2,609,158 gallons. All these liquors were furnished by the most highly civilized Christian nations, Great Britain leading in the amounts. To offset the effects of such a consumption of alcoholic beverages, tons of Bibles and thousands of missionaries were sent with them. This puts us in mind of a very wealthy distiller across the Canadian border, who has built a church, and pays a preacher to hold regular services in it, so that when people die from drinking his liquor they will at least have a chance of saving their souls from eternal punishment—which is extremely thoughtful on the part of the distiller.

FINANCE AND AGRICULTURE IN FRANCE.

Our Paris correspondent, in a letter which has just reached us, details the measures which the farmers of France are adopting as a means of improving their financial position as a class, render them more independent of banking institutions, and enable them to secure loans on the most favorable terms on their products. It is worth while noting how these shrewd and thrifty agriculturists propose handling their own financial affairs:

"French farmers counted upon the renewal of the charter of the Bank of France to obtain the necessary financial aid to help them out of their hard times. They have scored very little advantage; 40 millions of francs (about \$8,000,000) will be placed at the disposal of the government to found and finance a central rural bank, that will discount farmers' bills for a term of twelve and not three months. That is not the solution of the difficulty; it resides in and is being accomplished by the agricultural syndicates becoming their own bankers, as in Italy and Germany, and managing the loans themselves, based on the honorability and thorough acquaintance of the farmer, who will be always a neighbor. The government, by favoring the system of elevators, of storing the farmer's grain, giving him a negotiable warrant for three-fourths of its estimated value, taking delivery, as in Russia, when he is called upon to bring in his grain, that would be an immediate relief to the small holder, and one of the best remedies possible against grain rings, corners, invisible supplies, etc. There is evidence that their scheme will catch on."

The French farmer is the most uncompromising of protectionists in his views, and looks very sharply after the government to see that his particular interest is well cared for. He has managed so far to escape the bitter competition which has driven the English, Scotch and Irish farmers into exile, and scattered them over the habitable globe. The French farmer does not emigrate—he compels the French government to protect his interests, and in return he is the most conservative and thriftiest of that country's industrial population. Referring to the latest demands of the farmers our Paris correspondent says:

"The farmer is in a dangerous position in pressing the government to place a next to prohibitive tax on American pork and canned meats; that will call in question the whole protective tariff of France—not a regrettable matter, only for the social and political consequences that would follow. America has already prepared her reply guns; she has outlined the high duties to be struck on wines, jewelry, works of art, silks, etc.—the chief exports of France to the United States. Better to bear the ills we have, than fly to others we know not of."

There is the promise of a splendid wheat crop in the United States and of a short wheat crop in the rest of the world. This is the precise condition which in 1891 followed the passage of the first McKinley tariff act and filled the country with prosperity that McKinley claimed the credit for.—Philadelphia Record.

The Record will probably remember that the prosperity which came in with the McKinley tariff act did not extend to the succeeding administration. It seems, however, to expect the return of prosperity with the passage of the new tariff bill, but of course it will be the wheat crop. We are all waiting for it just the same, and don't care whether the new tariff or the wheat crop brings it.

You May Win \$100.00.

Have you seen the advertisement in this issue headed "Our Latest Contest?" A prize of \$100 is offered to the person who spells the forty names of cities in the U. S. correctly. Our advice is that you try to study out the words as well as you can and send your answer to Home Treasury Co., with subscription, at once. The company is one of the largest and most reliable, and you can positively depend on being honestly treated. We would like to see some subscriber of the MICHIGAN FARMER win the \$100 or the \$100 Bicycle.

Grange Department.

Our Motto:—"The farmer is of more consequence than the farm, and should be first improved."

Address all correspondence for this department to
KENYON L. BUTTERFIELD,
AGRICULTURAL COLLEGE, - - MICH.

News from Michigan Granges is especially solicited.

GRANGE NEWS.

Independence Day was declared to be appropriately celebrated by Leontidas Grange, Saturday, July 3. Each one declared that the contest work, the contest program and the final program and dinner had formed a series of brilliant successes.

The Grange in these three busiest months of the year—April, May and June—added fifty to their membership, thereby doubling their numbers, besides bringing out talent in some of the quieter ones that has surprised us.

Let all the Granges rejoice with Leontidas, who do rejoice exceedingly.
St. Joseph Co. SARA COVEY, Cor.

North Branch Grange, No. 607 is in a flourishing condition. We have a large membership of wide-awake members. We hold our regular meetings every first and third Saturday evenings in each month. Our lecturer always prepares a good program one meeting in advance and lively discussions always follow each subject.

Lapeer County Pomona Grange met with our Grange Thursday, June 10, with an unusually large attendance of both members of the order and others. The forenoon was for Grange work, after which dinner was served by the sisters of the home Grange. After dinner the program was taken, consisting of farm and other topics and music.
Lapeer Co. WM. HOBSON, Cor.

Hopkins Grange, No. 39, observed Children's Day July 3rd with appropriate exercises at the Grange hall. The program was very nicely arranged by the Misses Carey and Andrews and was well carried out. It consisted of recitations, essays and music. The latter was especially enjoyable. Mrs. Carrie Adams presided at the organ and Messrs. Dunwell and Hodge favored us with a bass melody which was fine. They promise us something still better in the near future. Ice cream, cake and lemonade were served to quite a company of Patrons and the children who are to be the Patrons of the future, and we went home feeling that life is made better and brighter by such social gatherings. Secretary Andrews delivered quite an amount of binder twine to different members.
Allegan Co. MRS. H. H. H.

Grand Traverse Grange, No. 379, is feeling very comfortable this hot weather, having just paid the last installment of its indebtedness, and now owns property assessed at \$1,800, a hall with all the latest improvements including electric lights. Our last meeting was Children's Day and I wondered if all Granges have the same experience, that is, we never have as good attendance at any other time, even of the old members; there were one hundred present, about half children; with a full literary program, oranges, bananas, candy and plenty of music, they had a pleasant time.

The one day institute held in the hall the 6 inst, was a complete success, a good attendance considering the heat, the busy season, and the special subject of fruit. All the old fruit growers were out, as well as the amateurs. Prof. Taft has been here several times but never seemed to touch the chord of public sentiment as on this occasion. He will draw a larger house next time.
Grand Traverse Co. A. P. GRAY, Sec.

Courtland Grange, No. 563, although twenty-two years old, is yet wide-awake to all that is of interest to the order. The sisters are showing us what they can do in governing a Grange, as we have nine lady officers out of the thirteen. Our last meeting might be called a fresh air meeting. Fresh air work was the subject for discussion and was freely discussed. A committee of three was appointed by the master to solicit places for fresh air children from the city. There is no doubt but these sisters will do their work thoroughly and well, and later on we will report our success.

Not long since at one of our meetings as the Grange closed for intermission, strawberries with cream and cake were brought out for refreshments, much to the surprise of all the members except one.

We are anticipating a great intellectual feast on Sept. 1-2, when the Pomona Grange meets with us and we hope all of our sister Granges will be represented at that time.

I think if every Patron would take The Michigan Farmer there would not be a dull Grange in the State. It abounds with good Grange food.
Kent Co. ROBERT SOWERBY, Cor.

CO-OPERATIVE FIRE INSURANCE.

(Portion of paper read at Lenawee Co. Grange by R. A. Woolsey, Adrian.)

Insurance in reality is but a form of taxation. State and municipal taxation are obligatory, while insurance is voluntary.

If we have property we are obliged to contribute to the support of schools and highways, for the suppression of crime, to care for the unfortunate, to the protection of the weak, and in short, to assist in everything nearly that makes civilization and society what it is, or ought to be.

In insurance, we can contribute to, and receive benefits from, or we can stand aloof and take our own chances as we see fit. Do we take out a policy in a standard company, their rates are such that we have to pay good salaries to their officers, good commissions to their agents, and profits on the capital stock of the company, in addition to bearing each others' losses. Do we adopt the mutual, or co-operative plan, we do away with the profits on capital stock, we hope to do away with excessive salaries to officers or agents, and it is possible to reduce our hazard by limiting or specifying the class of property we insure, and the character of the people whom we admit into our company.

The by-laws governing our company can also be made to conserve to our interest, and wise legislation by our state law makers in the apprehension and punishment of incendiaries is a great protection to our property. To substantiate this statement I will call your attention to the rates of insurance in Massachusetts and in Iowa respectively.

Massachusetts, in consequence of its excellent insurance laws, and their strict enforcement, is enabled to give a rate of \$1.05 per \$100, for fire insurance, while Iowa, from a lack of these conditions is obliged to pay \$1.72 per \$100.

To give something of an idea of the amount paid for insurance over the actual loss by fire, statistics tell us that of \$150,000,000 disbursed by all insurance companies in the United States in one year, only \$70,000,000 were paid for actual losses, \$15,000,000 for dividends to stockholders, and the balance of \$65,000,000 went for expenses, showing less than 47 per cent for losses, and over 53 per cent for dividends and expenses. It is an admitted fact that fires from incendiary origin are more destructive than those from accident, from the fact that they are usually started at hours and in places where they will not soon be discovered.

The loss of property by fire in the United States is steadily on the decrease, notwithstanding the amount of inflammable property is steadily increasing.

In 1893 the total loss was \$167,000,000, in 1894, \$142,000,000; in 1895, \$140,000,000, and in 1896, \$120,000,000, and the losses paid by insurance companies have decreased in the same ratio.

The experience of the farmers of Lenawee county hardly corroborates this statement, but I have no reason to doubt the correctness of the figures.

If there is wisdom in the old axioms, slow but sure, or make haste slowly, we are on the road to success, for although it has been over two and one-half months since the meeting to organize, reports have been received from only twelve Granges, eight not having yet reported, but the reports when received are favorable, and every thing along the line seems encouraging.

To give something of an idea of the success of similar undertakings in the state of New York I will read a few lines from the address of the president of the Co-operative Insurance Companies at their last annual meeting. This meeting bears about the same relation to the local companies that the State Grange does to the subordinates.

"Co-operative insurance is essentially a farmer's insurance, and for obvious reasons especially adapted to risks on detached property. The officers of such companies are in the main farmers, and the remarkable growth and success of the system is good evidence of wise and economic management, and a high testimonial to the business sagacity, integrity and ability of this class of our fellow citizens, and leads toward the gratifying conclusion that the farmers of our state, under its liberal educational system, are gradually and surely becoming a class of successful business men, trained to business methods in the stern school of practical application and experience."

"In simple justice I believe I ought to add that the order of Patrons of Husbandry has been the vitalizing, energizing influence underlying this happy transformation which has by means of organized effort given direction, force and effect to the efforts of the farmer in his struggle for equal rights and privileges."

"We make to it our lowest bow and exclaim, 'All hail the grand and noble Order,' which has inspired in his breast higher and nobler ambitions, developed his latent power and faculties and led his mind out into broader fields of thought and usefulness, and done such valiant service in the struggle to place the representatives of agriculture on equal footing socially, politically and in business affairs with the representatives of other industries."

At this meeting there were thirty-one co-operative insurance companies represented, and reports were read from 112 different ones, representing policies numbering 102,641 and risks amounting to \$178,468,131.

There may be some present who do not know the plan upon which we propose to work, and for their benefit I will state some of the main features.

We propose to insure the property of none except members of the Order of Patrons of Husbandry, in good standing.

To insure real for two-thirds and personal property for three-fourths of its actual cash value, and in case of a total loss, to pay the full amount of the policy.

There is to be one director in each subordinate Grange, who will issue all policies for members of his Grange, the director and the insured appraising the property and determining the amount of the policy. The insured is to pay \$1.00 for each policy, which is turned into the general fund of the company, and from which the director can draw 50 cents for issuing said policy.

Directors are to receive \$1.00 per day for their services and 6 cents mileage one way to cover traveling expenses. The president and secretary are to receive such compensation as the board of directors shall vote. There is to be an annual meeting of the board of directors, and special meetings may be held at the call of the president and secretary.

In case of loss, the president, secretary and local director with the insured are to adjust the loss and a board of three are elected from among the directors to assist in case the above can not agree.

There are restrictions and conditions governing the depositing of ashes, the use of steam engines, proper brick or pipe hearths for stoves to rest upon, pipes passing through ceilings, etc., to lessen as far as possible the danger of fire. A copy of the constitution and by-laws will be attached to each policy so every member can be thoroughly posted in regard to the requirements of the company.

DISTRICT SCHOOLS.

AN IMPORTANT REPORT.

The report of the committee of twelve on rural schools in the United States, appointed at the convention of the National Educational Association in July, 1895, has been completed and submitted at the present annual gathering. It is one of the most important documents on school education that has appeared since the promulgation of the report of the committee of ten on secondary education in this country a couple of years ago. The committee consists of Henry Sabin, of Iowa; D. L. Kiehl, of Minnesota; A. B. Poland, of New York; C. C. Rounds, of New Hampshire; J. H. Phillips, of Alabama; B. A. Hinsdale, of Michigan; S. T. Black, of California; W. S. Sutton, of Texas; L. E. Wolf, of Missouri; United States Commissioner Harris, L. B. Evans, of Georgia, and C. R. Skinner, of New York.

The report discusses the rural school problem in the different aspects of school maintenance, supervision, supply of teachers and instruction and discipline. Each of these subjects was in charge of a sub-committee of three, their work being reviewed by the entire committee.

TOWNSHIP UNIT.

The report says that for purposes of

organization, maintenance or supervision, nothing should be recognized as the unit smaller than the township or the county. The school district is the most undesirable unit possible. Effecting this change wherever the district system prevails would conduce to effectiveness and simplicity of organization, economy in funds, equalization of taxation and to a system of supervision which would produce better results. All the sub-committees favor the consolidation of schools which are too small to employ profitably the time of one teacher into larger schools when practicable, in order that better instruction may be provided than is now possible. Every community should be required to raise a certain sum for support of its schools as a prerequisite for receiving its share of public money. A certain definite sum should be appropriated to each school out of the state funds and the remainder should be divided in accordance with some fixed and established rule, a discrimination being made in favor of townships most willing to tax themselves for school purposes.

TRANSPORTING PUPILS.

One of the great hindrances to the improvement of the rural school lies in its isolation and its inability to furnish to the pupil that stimulative influence which comes from contact with others of his own age and advancement. The committee, therefore, recommends collecting pupils from rural schools into larger ones and paying from the public fund for their transportation, believing that in this way better teachers can be provided, more rational methods of instruction adopted and at the same time the expense of the schools can be materially lessened.

TEACHERS.

There is a tendency to fill the rural schools with untrained, immature teachers. The establishment of normal training schools, under competent instructors, with short courses, each year of which shall be complete in itself, would do much to remedy this evil. The extension and adjustment of the courses and terms of the state normal schools so as to constitute a continuous session would enable them to contribute more directly than now to the improvement of the teachers of rural schools. The state would then be justified in demanding some degree of professional training from every teacher in the rural as well as in the city schools. The establishment of libraries, the prosecution of the work of school extension by lectures or other means, the introduction of such studies as will have a tendency to connect the school and the home, especially those having a direct bearing upon the everyday life of the community, and then of applying the laws of sanitation to the construction of rural school houses, demand immediate attention.

SUPERVISION.

The rural schools are suffering from want of official and intelligent supervision. In every state some standard of qualifications, moral and intellectual, with some amount of actual experience should be demanded by law from those who aspire to fill the office of superintendent or supervisor of schools.

Good morals and good manners constitute an essential part of an educational equipment. The inculcation of patriotism, of respect for law and order, which ever tends to make a good citizen, is of as much importance in a small as in a larger school. Regularity, punctuality, obedience, industry, self-control, are as necessary in the country as in the city school. Country school teachers should call to their aid the beautiful things in nature.

Some important recommendations are made as to instruction and discipline and the evils of attempting to grade rural schools as the city schools are graded are set out at length. In connection with school exercises at the town or county center, once or twice a year, competitive examinations are not recommended unless they are carefully guarded. The feature of social intercourse, the stimulus which comes with meeting with one's mates, have advantages which ought not to be neglected.

Sunday Excursions to Orchard Lake.

The Grand Trunk Railway System have arranged for Sunday excursions during the summer months and have made cheap rate of 50 cents for the round trip to Pontiac, Sylvan Lake and Orchard Lake. Commencing with Sunday, July 18th, trains will leave Brush Street Depot 9 a. m., Gratiot Ave. 9:08 a. m. and Milwaukee Jct. 9:20 a. m. Returning, train to leave Orchard Lake 5:00 p. m., Sylvan Lake, 5:05 p. m. and Pontiac 5:15 p. m., reaching Detroit about 6:10 p. m. This is one of the cheapest and most enjoyable trips that can be taken for a Sunday's outing to the finest inland lake region in the State.

The Household.

CONDUCTED BY MRS. ELLA E. ROCKWOOD
FLINT, MICH.

We should be pleased to have any of our readers who take an interest in household topics, send in their views and opinions upon any subject which is under discussion, or which they wish discussed. The invitation is general, and we hope to see it accepted by many. Address all letters for THE HOUSEHOLD to Mrs. Ella E. Rockwood, Flint, Mich.

BE GENTLE TO THY HUSBAND.

Be gentle, there are times when he
By anxious care is tossed;
And shadows deep lie on his brow,
By business trials crossed.

Be gentle, 'tis for you he toils
And thinks; and strives to gain
Home comforts and home happiness—
Don't let him strive in vain.

Be gentle, though some hasty word
Should fall—it was not meant.
A smile, a kind word will recall,
And many more prevent.

Be gentle, oh, 'twill soothe much care,
And make each burden light;
A gentle tone will smooth the brow
And draw an answer bright.

Be gentle, though it may seem hard
To check an angry word,
Yet try, and it will surely bring
A full and rich reward.

—TRUTH.

HOME CHATS WITH FARMERS' WIVES.

THE HOT WEATHER.

It seems to me that this first week in July has been the very hottest of which I have any recollection. The mercury registered 98° in a shady place on our porch to-day. Saturday, July 3d, it went still higher. The rains go all about us, yet we get not a drop. I sat on the front porch last evening and distinctly heard a heavy down pour of rain a mile or more to the southward—but not a drop came near us.

This weather is particularly trying. It makes us all feel that the least exertion is an effort; we are tired all the time. We would be glad, so glad, if we had nothing to do but lie in the hammock beneath shade trees with not even a book to hold. Perspiration oozes from every pore. We take an involuntary bath in moisture from our own bodies. We mop our faces and exclaim, "O, how hot, it is!" forty times a day. We sigh for winter exactly as last winter we sighed for summer. We are indeed hard to please.

Only last week I received a letter from a lady whose family we have supplied with butter. It stated that they were going into the country to spend the summer, and, the town residence being closed, no more would be required for some time.

Going into the country! Delightful thought, and delightful reality it will be also without doubt. Going into the country means in this case enjoyment of country life without its unpleasant features. It means unlimited opportunity to rest, to do exactly as one pleases, to rise whenever one feels like doing so, to idle away the hours as fancy dictates; no cares, no work, no nothing to detract from a full and complete enjoyment. What farmer's wife does not envy the woman who is so fortunate as to be able to do this? What greater delight can we imagine? You remember the verses about the tired housekeeper who when she should get to heaven wanted to "do nothing for ever and ever." It is very likely that there are plenty of others who feel the same about this time of the year.

This is a beautiful world could we only stop from our toil long enough to enjoy it. There is beauty all around us, in woods, in fields, by purling streams, yet the actual facts are that nine persons out of ten have no time to enjoy these things. We could easily see the enchantment of the scenery in even the most commonplace of country places could we lift our eyes from the ground long enough to permit it. The artist makes some of his most charming pictures from a point where we see nothing worth painting. Nature is lovely in all her various forms, but we need to lift up heads and see with understanding eyes to fully comprehend this. When tired and overburdened we fail to appreciate even the beautiful.

But to return once more to the heat—for it is ever with us now.

How foolish it is to take baby away from home during such weather! How the poor little things suffer yet can

only moan and cry by way of expressing it. How much more comfortable they are clothed in the thinnest and lightest of garments tumbling about on the grass, or on a blanket on the floor, than if dressed up in their best and carried in the arms to the circus, the celebration, or anywhere else. Scores of foolish mothers take their little babies to places of amusement—that is amusement for the mothers; it certainly is not such for the children—carrying them all day in their arms, tossing them about to keep them from crying, through the crowd, jostled, jolted, the sun beating down upon its uncovered face; is it any wonder the child cries? Is it any wonder it is usually sick for a week afterward? I know of many such mothers, who, for the sake of their own pleasure (if they can get any pleasure out of it), will take their babies away from home in hot weather when they would be far better off at home.

Keep the little one as quiet as possible this hot weather. Give it a bath daily, do not handle much, see that its clothing is comfortable; and this means both light and loose. Do not have the napkins either heavy or tight. Think of these things—they go a great way in making a comfortable, happy baby, or one that is fretful and cross. Often the child is condemned as unreasonably cross when a little attention to its clothing, its personal comfort, would bring about desirable results. A grown person may sometimes be uncomfortable yet not cross—a child never.

The months of July and August are especially trying. The system feels the effects of the heat, we are debilitated by it. This shows itself in the changed appetite which requires tempting as the winter appetite never does. The diet should be more simple, rich, fatty foods being especially avoided. Vegetables and fruits are now plentiful and are much better than a meat and pastry diet. Sickness always abounds at this season; in order to keep well we should be careful what we eat.

IN WONDERLAND.

To one used to the quiet pastoral beauty of the East and Middle Western states this country is a great change. In fact it is the very opposite. For Nature must have been in one of her wildest moods when this part of our great country was made. She has rocks, boulders and gold to spare, and being tired of the sameness of the prairies she has piled them pell mell into these huge mountains that lift their rocky heads from 10,000 to 14,000 feet above sea level.

Nestled in the little valley and creeping up the mountain sides is the richest mining camp in the world—Victor. The fame of Cripple Creek has reached the uttermost parts of the earth, but this young giant has outstripped her in the number and richness of her mines. One can hardly comprehend the vast wealth stored up in these rock-bound mountains. The great shaft houses and smoke-stacks are on every hand, and hundreds of men earn a living for themselves and families down in the depths. They receive from \$3.00 to \$5.00 a day of eight hours.

There is no Sabbath stillness. The big whistles of the mines blow as regularly on Sunday as on any day, and the sound of saw and hammer is heard on every side. I doubt if many know when Sunday comes. Children (which are more numerous than I ever saw them East, West, North or South) run at their own sweet will until "curfew" calls them home at 9 o'clock. The street is their stamping ground, and it often makes one shudder to hear the oaths from little tots hardly out of their mothers' arms. A sentence cannot be commenced or finished without an oath by the majority of the men—finely dressed, with glittering gems at collar, bosom and cuffs, with all the airs of those "to the manor born," roll the wicked words from their mouths as sweet morsels. Here is a field for home missionary work if there ever was one.

There are four churches and good schools. On Decoration Day 700 school children were in line and marched to the cemetery with the long procession. Very pretty they looked, each carrying a little flag of the Stars and Stripes.

Squaw Mountain is the most wild and rocky and by far the most beautiful. About one-third the way up the mountain side in a little niche is our home for the present. Such a panorama as is spread out before me from our

mountain heights is seldom seen. Below is the principal portion of the town, and almost at our feet is the Denver & Rio Grande railroad, cut through the solid rock part of the way, only the top of the engine is seen. Above, doubling the mountain sides is the Colorado Midland, over which the Santa Fe and Union Pacific also run trains. Higher and still higher it winds, in and out, a marvel of the skill of man. But still more wonderful are the piles of granite that resemble castles with turrets, towers and gateways. The great fir trees relieve the sombre hue and find a foothold among the rocks clean to the very top. Prospect holes dot the mountain in every direction, and several big shaft-houses and tunnels are bringing up the hidden treasure—the beautiful gold.

The variety of wild flowers now in bloom on Squaw Mountain is something beyond the comprehension of people East. In fact the flora of Colorado is wonderful. The wild strawberry covers the mountain with bloom, roses (which are now just in bud), gooseberry bushes loaded with flowers as I never saw in the cultivated or wild ones before, bluebells, fox glove, salvias, iris, wild peas, sweet williams, primroses, columbines (the state flower) and scores of others whose names I do not know dress the rocky sides in gay colors. A shrub which they call "thimbleberry" here, is very beautiful. It is just in its height of bloom now. The leaves resemble the snowball, the flowers a single white rose, and later have a berry which is red. We see but little moss and no ferns. The altitude is 9,700 feet above sea level in the valley and goes higher as we climb the mountains.

The pictures in cloudland are sometimes wonderful to behold. To see the mists weave in and out the gulches between the mountains; now in sheets, again in all sorts of fantastic shapes. Italian skies can be no bluer than they are here. As I gaze up the heights of Squaw, hundreds of feet above me, I see the piles of rocks outlined against the wonderful blue of the sky.

It is comfortably warm in the middle of the day, but nights are cool. Heavy blankets and comforts are required the year around. While we read of terrible heat in other places we in our mountain home know nothing of it. Heavy flannels are worn all summer.

We long for the green fields, our Jersey cows, good sweet butter and cream. But perhaps in the "some day" they will come back to us, or we to them.

MRS. FREDERICK C. JOHNSON.
Victor, Col.

TRAIN THE GIRLS ALSO.

I do not know as it is best that I appear before you so soon again, and when last I wrote it was not my intention to write this. But Jennie M. Willson's article in the Household for July 5 on "How to Train a Husband" makes me enter again and ask for a hearing.

The writer referred to says, and truly, that the little boys should be trained early in life to be neat and orderly if we would have them possess these highly desirable traits later. That by so doing the wives will not be annoyed and made slaves by always having to pick up after them.

Every word of this is true and mothers will do well to follow the advice, but it is my opinion that our little girls need to be trained in orderly habits fully as much as the boys. There are scores and scores of homes where untidiness reigns, and the wife, not the husband, is to blame for it. Look at the dirty, slovenly habits of some housekeepers and see if a sad mistake was not made in their early training? Personally, I know of more than one home where the husband is mortified and disgusted at the disorder which rules supreme, with slight effort made to keep things in any different condition.

I know of one man whose mother was the neatest of housekeepers. She taught her boys to be careful and orderly about the house, and indeed they seemed to have this tendency inborn. This young man married a sweet, pretty girl, good, kind and true, yet she never cared how either herself or her house looked. She was perfectly content to sit down after breakfast with a book and let the table stand with dishes unwashed till dinner time. Her hair was almost always untidy, buttons missing from gown and boots, confusion and litter everywhere about the house. It was a great trial to the husband, accustomed to a different meth-

od in his old home. He felt mortified to have strangers or others come to visit them. He tried to pick up and help keep things looking decently, but with his own work to do this was sometimes out of the question. Expostulation was in vain as to permanent results, a tearful little wife promised to do better, yet relapsed into old habits after a day or two. It was nothing uncommon for this man to find his bed still unmade and the room in disorder when the hour for retiring came, and this not because his wife had so much to do, for there were no children, just the two alone, but it was an effect of lack of early training. Her mother was very much the same, but with the excuse of ill-health she was less to be blamed.

As I look about me now I can see homes where the husband is at fault in making additional work for the wife by way of picking up and waiting on him. He is careless about papers and articles of apparel, dropping them where he uses them last, but I can but see, too, that in other homes it is the wife who is careless and untidy in the same way. So I say let the girls be trained also, to habits of order and tidiness. It is just as important as for the boys.

But in spite of all there are those, both men and women, who have no ideas of order about them. I have known girls most carefully reared who became the most slovenly housekeepers in homes of their own; yet mothers should try to instill correct ideas regarding these things into the minds of both boys and girls.

Mrs. Willson says, "If they are accustomed to order and neatness in the home of their boyhood, disorder would be distasteful in a home of their own. Barn doors and gates would not be left to swing on one hinge nor loose shutters to flap on the windows."

The boy should be taught by his father these things, certainly, and my observation has been that careless fathers make careless sons as a rule. I don't think having his room fixed up will be half so apt to instill him with ideas of order as the example of the father in the majority of cases. Like father like son, in this respect.

GRANDMOTHER S.

SOME FRUIT CANNING HINTS.

Most housekeepers will agree that one of the most exasperating things is to find a can of fruit fermenting after it has been prepared and set away in a condition supposed to be such as to preserve it indefinitely. It is trying enough with all the rest of the work that must be done at this season to get it into the cans, but when after this is done the fruit spoils it is an additional trial.

There is one reason which nine times out of ten will account for spoiled fruit, and this is imperfect tops or rubbers. Each can should first be tried with warm water to see if it leaks after rubber and cover have been put on. If it does it is an utter waste of time to put fruit into it, for it will surely spoil. Sometimes an extra rubber will remedy the trouble. If old ones are used this is almost always a necessity. Unless in a better state of preservation than usual it is far more economical to throw them away and buy new. Soaking old rubbers in ammonia water will sometimes make them usable again.

If the rubbers are all right, the top or cover of the can may be bent or worn through in a tiny spot, thus causing it to leak. Examine each cover for this. If Mason's, lay each cover flat on a table right side up and with a hammer lightly pound the edges flat, or after it is on the can with a heavy knife go around the edge, pressing it close to the body of the can. Old covers sometimes are so corroded as to be past using with any degree of safety and new ones may better be purchased to replace them. They cost nearly as much as do cans, covers and rubbers complete, however.

The Mason can is probably more generally in use than any other, yet there are others that I prefer. In buying it is well to examine other kinds before deciding.

An important point in successful canning is to have the fruit not over-ripe, and boiling hot when put into the jars. Filling to the brim so as to exclude all air is also essential. Never take the dish cloth to wipe off the inside of a can after it has been filled. The cans have of course been well scalded previously, the fruit itself is boiling hot, but the use of that dish cloth may leave the germs of fermentation, which

will later on multiply and cause the fruit to "work."

After the fruit is in the cans and the covers in place, turn each one upon its side and allow it to stand some time. Should the least drop of juice exude it will not be safe to put the can away. Open it, fill once more with boiling syrup from the kettle, and try it again, using another rubber. This slight precaution would, if invariably observed, save much vexation.

Sometimes the syrup will not cover the fruit after it has stood awhile in the cans. In such cases it is perfectly safe to remove the covers (having boiling syrup ready) and fill to the brim again, replacing the covers immediately. If none of the fruit syrup remains, sugar and water boiled together will do just as well, only be expeditious about the operation and not leave the open can exposed to the air.

Light affects some, in fact most fruits. To perfectly exclude this tie each can up in brown paper or slip a paper bag over it, marking the variety on one side. Strawberries may be kept much better if this is done, otherwise they are apt to look faded after awhile.

A good collection of canned fruit is the housekeeper's never failing standby. It represents considerable labor but well repays for all that in furnishing material from which to draw during the winter to provide our tables with a very good substitute for fresh fruit.

CONTRIBUTED RECIPES.

Macedoine of Fruit.—This is made with any kind of jelly. Any of the delicate fruits of the season, such as grapes, cherries, peaches, strawberries, raspberries, currants (on the stem), orange sections, or preserved fruits. The mould is placed on ice and a little jelly poured in. When set some fruits are arranged in a circle or according to taste, more jelly poured in, and left to cool again, more fruit added and so continued until the mould is full. Do not heat the jelly a second time—merely keep it in a warm place while waiting for that on ice to harden.

Cocoonut Blanc Mange.—One quart milk, four tablespoons corn starch, one cup sugar, four eggs, the whites and yolks beaten separately, one grated cocoonut, a little salt, one teaspoon vanilla. Add the whites of the eggs and the cocoonut after the corn starch is well cooked in the milk, and the flavoring last. Wet a mould with cold water and pour in the pudding. When cold turn out and serve with whipped cream; it is nice, however, without dressing.

Lemon Cookies.—One cup butter, two cups sugar, yolks of four eggs, grated rind of one lemon, two tablespoons of the juice, a little soda.

Hermits.—One cup butter, one and one-half cups brown sugar, three eggs, one cup chopped raisins, one tablespoon soda dissolved in two tablespoons milk, all kinds of spices, and flour enough to roll out. Cut as cookies and bake.

MRS. A. C. E.

OUR WASHINGTON CORRESPONDENT.

I wonder if any of the Household sisters have ever seen prettier roses than we have here in Washington? They grow to perfection—yellow, red, white and three different shades of pink. Our front yard is simply gorgeous in June. The summers here are cooler than in the East, perhaps that accounts for it. We have a monthly rose that blooms at intervals all summer and has a deliciously sweet fragrance.

Our editor spoke in a recent chat of the robins. Here they are considered a great nuisance. They are so thick they destroy the sweet cherries before they get ripe—the sour ones they do not seem to like. One of our neighbors makes a business of destroying every nest he can find and also shoots the birds by the dozen. This seems cruel, but he has a large cherry orchard and must do so to protect his fruit.

I am having my first experience this summer in raising Pekin ducks. I have 24 little fellows now. I set the eggs under a hen and when they hatched I took them away and let her hatch out a nestful of hen's eggs. I raise the ducks by hand—they are not much bother, and such cunning little things as they are when they are first hatched. We have a large creek which runs the whole length of our farm, and it is a fine place for water fowl.

I wish some one would send to the

Household a remedy for muscular rheumatism. My arms and hands are at times almost helpless with it. Cannot some one help me?

I want to tell Mrs. F. M. D. that I tried her recipe for molasses cake and it was very nice. I omitted the eggs (having just put the last under a hen) and it was still good.

SISTER MARY.

Whitman Co., Wash.

CAKE AND POETRY.

What art thou, Life? A fleeting day of chance,
A trembling dawn on a wide-reaching,
restless sea?
A fervid moon—eve's shadow, dim and strange,
(Oh, that reminds me. I must bake some cake for tea.)

Thy morn is beautiful, oh Life! (I ought
To glance into the cook-book, so to
make quite sure.
"Three eggs, a cup of cream," just as I thought.)
With all its dreams, so high, so true,
so pure!

Grand is thy full, sweet noontide. (Sift
the flour
And stir it in. I'm glad the oven's hot
and nice.)
When lofty purpose arms the soul with power,
("Raisins and currants, one cup each
with spice.")

Night, and the day's fulfillment! Oh,
how fair,
How wondrous is this mystery! ("Then
add about
A teaspoonful of lemon flavoring"—
there!
Now, while it bakes, I'll write my
poem out.)

—Madeline S. Bridges, in Ladies' Home Journal.

AN EXHORTATION.

It is said that the crying need of the day is for Cupid to awake and thrust his arrows deeper into the hearts of men, "for love today is not what it was in olden times," that girls marry for money, position and title, and men to satisfy pride and lust.

It is very evident that those who think thus do not live in a community where yeomen till the land, sow the seed and reap the golden grain, while daily they humbly thank the Giver of all good and perfect gifts.

The attention of those good people may be called to the fact that nearly all of the courtships of old that are read about, talked about and sung about, were brought about in the midst of rural sceneries. It is true, girls of today no longer bind wheat or rake hay. More and more we find them in the home, making it beautiful and attractive to those who care for them, but I know that high aims, noble purposes and love for fellow men dwell in hearts of true farmer boys today as much as ever, and they seek today as much as ever the marriage born of true love, which comes from above, for "God is love."

Let us remember the fact that it is not Cupid who is sleeping or lazy. He is as zealous as ever, and sharpens his darts as in times of old; but the trouble is that the minds and hearts of this period and generation are so beclouded and benumbed by the demands of so-called fashionable society which is found more or less in cities and also in some of the smaller places of both Europe and America.

Friends! Yeomen! Tillers of the soil! Let us remain true to our convictions, and let us as mothers, wives, sisters and sweethearts, not heeding all this talk about "woman's suffrage," but encouraging those nearest and dearest to us to establish such homes where Love is supreme ruler and king. I am persuaded that the time will come when yeomen will be the leaders of society, a society characteristic for its purity, honesty and nobility, for the reason that there is grandeur in their homes and daily lives, and all who meet them will be made better and happier and will look upon life with more hope in their breasts, more love in their hearts, and more faith in their God.

"BURDOCK."

Sanilac Co.

WHAT TO DO IN EMERGENCIES.

Where there are children there will surely be accidents, more or less serious in character, says the Home Monthly. Mothers sometimes turn sick and faint and are able to give no assistance just at the moment when aid is most valuable. I am constrained to believe that this failure in the face of crisis is due more to lack of knowledge of what to do than the lack of nerve. It is every mother's—it is every person's—duty to know what to do in an emergency, when a flash of knowledge

and a swift application of it may save a life.

FOR FAINTING.

In case any one faints, whether it be a child or a grown person, lay them flat on back, with the head the lowest if possible. They faint because the heart action is not sufficient to throw the blood to the brain and hence they lose consciousness. The horizontal position enables the heart to do its work more easily and consciousness is speedily restored. If needed, dash some cold water in the face—the shock restores consciousness; or apply spirits of camphor or hartshorn to the nose, not too close, or you may cause strangling and do more harm than good. Keep people from crowding around to shut out the air, or if in a room, raise the windows and open the doors.

FOR SPRAINS OR BRUISES.

When either of these accidents occur put the injured part immediately in as hot water as can be borne, and as the skin becomes accustomed to the heat add hot water at intervals, to the limit of tolerance. If the injury is to a part that cannot readily be immersed in hot water wring thick cloths from the water and apply, repeating as often as they begin to lose their heat.

CUTS.

It is important to notice certain things about a cut in order to give it proper care when first seen. When an artery is cut the blood spurts out in jets with each heart beat and is of a bright scarlet color. Where these conditions are noticed you will stop the bleeding by tying a handkerchief tightly about the limb between the cut and the body. If a vein is severed the blood is dark and of a purple cast and flows in a steady stream. To check the bleeding tie your ligature between the cut and the extremity. If the cut is on the head it will bleed copiously, as the scalp tissues are generally supplied with blood vessels and a small cut will give one the impression that it is a serious wound. Here you can arrest bleeding most efficiently by applying pressure to the edge of the wound. When bleeding is thus arrested sponge the blood away gently and cleanse the wound by letting the water flow over it, then wring a muslin cloth, doubled into several thicknesses, from either very cold or very hot water and bind it firmly over the wound, after the edges have been brought as close together as possible.

Always wash the hands both before and after dressing a wound. Never rub the eyes while engaged in such a duty, as wrong materials may thus be conveyed to them that may cause serious trouble.

All these directions are only intended as anticipatory to the coming of the physician or surgeon; but they may often times be carried out promptly and intelligently and save a life that would otherwise "be beyond all help or need of it" when the doctor should arrive.

Never sit down to eat a hearty meal when very tired. Drink a cup of hot water or weak tea and wait ten minutes before eating.

Hood's Sarsaparilla overcomes that tired feeling. It purifies the blood and builds up the system.

HOUSEHOLD HINTS.

For caked breast try carbollized vaseline rubbed well in, or camphor gum dissolved in sweet oil. The latter is very useful as a household remedy for external use.

If a child is not satisfied without a warm drink at table let it have "cambric tea, i. e., hot water, milk and sugar." Ice water is very harmful, as it reduces the temperature of the stomach below the normal.

If the clock stops for no apparent reason pour over the works a pint of oil. Let it remain on over night by placing the clock face down in a bowl. It will start on all right next day unless something is radically wrong with it.

KIDNEY TROUBLES

Cured by Lydia E. Pinkham's Vegetable Compound,

Also Backache.

I cannot speak too highly of Mrs. Pinkham's Medicine, for it has done so much for me. I have been a great sufferer from Kidney trouble, pains in muscles, joints, back and shoulders; feet would swell. I also had womb troubles and leucorrhoea. After using Lydia E. Pinkham's Vegetable Compound, and Blood Purifier and Liver Pills, I felt like a new woman. My kidneys are now in perfect condition, and all my other troubles are cured.—MRS. MAGGIE POTTS, 324 Kauffman St., Philadelphia, Pa.

Backache.

My system was entirely run down, and I suffered with terrible backache in the small of my back and could hardly stand upright. I was more tired in the morning than on retiring at night. I had no appetite. Since taking Lydia E. Pinkham's Vegetable Compound, I have gained fifteen pounds, and I look better than I ever looked before. I shall recommend it to all my friends, as it certainly is a wonderful medicine.—MRS. E. F. MORTON, 1043 Hopkins St., Cincinnati, Ohio.

Kidney Trouble.

Before taking Lydia E. Pinkham's Vegetable Compound, I had suffered many years with kidney trouble. The pains in my back and shoulders were terrible. My menstruation became irregular, and I was troubled with leucorrhoea. I was growing very weak. I had been to many physicians but received no benefit. I began the use of Mrs. Pinkham's medicine, and the first bottle relieved the pain in my back and regulated the menses. It is the best kind of medicine that I have ever taken, for it relieved the pain so quickly and cured the disease.—MRS. LILLIAN CRIPPEN, Box 77, St. Andrews Bay, Fla.

When writing to advertisers please mention that you saw their advertisement in the Michigan Farmer.

TEACHERS WANTED!

Over 4,000 vacancies—several times as many vacancies as members. Must have more members. Several plans: Two plans give free registration; one plan GUARANTEES positions. 10 cents pays for book, containing plans and a \$500.00 list of College days. No charge to employers for recommending teachers. Southern Teachers' Bureau, (Rev. Dr. O. M. Sutton, A. M.,) Sutton Teachers' Bureau, S. W. Cor. Main & 3d Sts., Louisville Ky. President and Manager. (69-71 Dearborn St., Chicago, Ill.) Northern vacancies Chicago office, Southern vacancies Louisville office. One fee registers in both offices.

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A NEW IDEA. \$100.00 FOR CORRECT LISTS.

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| 17-GOICCHIA | 37-NRDVEE |
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Here is something new, read very carefully, you may get \$100. In cash, or a Parlor Organ, or a Bicycle, or a Gold Watch, or a Garnet and Diamond Ring. We print here a lot of "words." These are sets of letters, jumbled, from which can be made the names of 40 Cities in the United States. For example, OYEKWRN can be transposed into NEW YORK and so on down through the list. It will be found a hard study but if you stick to it you may get 20, or even 30, or perhaps all of the words correctly.

GRAND PRIZES

To the person who sends a complete correct list, we will give \$100. In money. To the person sending the next largest list, we will give a \$100 Bicycle (lady's or gent's), for the next largest correct list, we will give a beautiful Parlor Organ, for the fifth largest list we will give a fine Gold Watch. If more than one person succeeds in making a complete correct list of words, the first prize of \$100, will be divided between those who send the nearest lists. Also to each and every person who succeeds in making out at least 20 correct names of cities, we will give, absolutely free, as a Prize, one Elegant 3 stone solid gold plated ring, set with "2 Garnets and a Diamond." Ring is superb in its beauty. It is equal in appearance and in every respect to a GENUINE \$90.00 RING, except intrinsically. The Ring is of gold plate, the settings are three carefully selected stones of exquisite brilliancy. They are made in such exact imitation that they defy experts. We have heard of rings similar to this being pawned for big sums, we have seen rings just like this, for sale in New York, Boston and Chicago stores, as a "big bargain" at \$2.50. Therefore, when you get this ring as a Prize for making out the names of 20 cities correctly, you will secure a most desirable and costly present. It doesn't matter where you live, you may enter this contest. With your list of names you must send us a silver quarter or 25 cents in stamps to pay for HOME TREASURY one full year. If you are already a subscriber, your subscription will be extended a year from date of present expiration or you may have HOME TREASURY sent to a friend. It is a handsome illustrated monthly magazine, every issue replete with charming stories, sketches, free contests open to subscribers only, and numerous other entertaining features. When you subscribe, your life will be insured by us for 1 year, you will also be entitled to the benefits of Accident Insurance. These features alone are worth many times the price of subscription. Don't send a list of words unless you send your subscription with 25 cents silver or 25 cents stamps. Prizes Sent Same Week that your list is received. Money promptly returned if you are not delighted. Address: HOME TREASURY CO., 233 Water St., AUGUSTA, MAINE.

Legal Department.

CONDUCTED BY EARL D. BABST,
56 Moffat Building, Detroit.

Credit for Using Wide-Tire Wagons
given in District of Residence.—F. V. P., Woodland, Mich.:—Can a person living in a village get credit for using wide-tire wagons?—Statute granting the credit seems to contemplate road districts only, and credit can be obtained only in district of residence. The statute does not extend to incorporated villages.

Highway Work—Who Liable to Poll
—Fines for Refusal—How Enforced—Unequal Distribution of Labor.—D. A. Alma, Mich.:—1. Every male inhabitant of this State, above the age of 21 and under 50 years, except pensioners of United States, persons exempted by military laws of the State, those who are mentally incompetent, and paupers, is liable to assessment for highway labor for what is commonly called capitation or poll-tax, and is assessed therefore one day each year in the road district in which he resides, and the overseer has power and it is his duty to assess all persons living in his district liable to poll-tax and whose names are not on his list as received from township clerk. The tax is collected the same as other highway tax. Persons duly notified who do not commute, or neglect or refuse, without good cause, to appear for work are liable to a fine of \$1 a day. Fines are collectable by suit in name of overseer. 2. Upon written complaint to the township commissioner by any three or more resident taxpayers of any district that the labor is being unequally and unjustly done, the commissioner is required to give such directions as will secure proper and impartial performance of highway labor.

Interpretation of Terms Lease.—Subscriber, Perrington, Mich.:—A. rents his farm to B. for money rent, reserving nine acres of wheat, and giving B. the privilege of sowing not more than 20 acres to wheat. A. to have fruit and firewood for his own use. Can B. hold all of the wheat now on the ground, or can A. force him to give one-third of what is over the nine acres? Did B. break the contract by refusing to give A. apples for winter use and cider?—From the copy of the lease which you forwarded, it appears that B. in the fall of 1896 had the right of sowing 20 acres to wheat. The right to sow the wheat carries with it the right to harvest it, even though the time of the lease has expired. Therefore B. may harvest 20 acres of wheat. It does not appear that he sowed more last fall than the lease specified, but by express terms he can harvest but 20 acres, and his right and interest in any excess has lapsed by termination of the lease. We are of the opinion that a court would construe the provision of fruit for own use to mean the right to use fruit during its season for family purposes, and we believe the picking of apples for winter use or the making of cider, or any use of the fruit other than as household uses from day to day, is excluded by the provision, and therefore there was no breach of contract. The matter of locking the granary door was an annoyance, but not a legal breach of contract. Lease was returned by mail.

The Markets.

WHEAT.

The market has showed a good deal of strength this week, in the face of the near approach of the time when the new crop will become available. The strong features of the situation are the very light stocks of old—the lightest known for many years—reports of a light yield in France, a decreased yield in Great Britain, and reports of a disastrous condition of the crop in Russia. Prices are higher than for some weeks, and sanguine bulls are predicting they will go higher. It is hard not to get excited over the prospects just yet.

The following table exhibits the daily closing sales of spot wheat in this market from June 25 to July 15, inclusive:

	No. 1	No. 2	No. 3
	White.	Red.	Rel.
June 25	81	81	78
" 26	81½	81	78
" 28	80	80	75
" 29	79	79	74
" 30	77	77	72
July 1	77	77	73
" 2	75	75	70
" 3	75	75	70
" 4	75	75	70
" 5	75	75	70
" 6	75	75	70
" 7	75	75	70

" 8	75½	75½	72½
" 9	74½	74½	71½
" 10	74½	74½	71½
" 12	76	76	72½
" 13	76½	76½	73½
" 14	77	77	72½
" 15	78	78	74

The following is a record of the closing prices on the various deals in futures each day during the past week:

	July	Aug.	Sept.
Friday	68½	68½	68½
Saturday	69½	67½	67½
Monday	70	68½	68½
Tuesday	71½	69½	69½
Wednesday	71½	69½	69½
Thursday	73	70½	70½

The visible supply of wheat on Saturday last, as reported to the Chicago Board of Trade, was 16,900,000 bu, a decrease since the previous Saturday of 974,000 bu. At the same date in 1896 the visible supply was 47,220,000 bu, or over 40,000,000 bu more than at present.

Cash wheat is very scarce, and buyers can only find small lots here and there. Receipts at principal distributing points are very light.

A letter from Yukon, Okla., says that some farmers have threshed out their wheat in that vicinity and that the yields are disappointing—ranging from 6 to 20 bu per acre and grading No. 3 and below.

The Marche Francaise says that the weather in France last week was fine and hot, being very favorable for the wheat crop during the flowering period. It is certain that a great improvement in crop prospects has taken place during the past month, and it is hoped that a good yield of grain will do something to make good the deficiency in the number of sheaves; however, the out-turn is bound to show a deficit. Le Fermier considers that the weather has been too forcing, a circumstance not likely to favor good quality.

The following are the percentages of condition of winter wheat on July 1 in the principal winter wheat producing states, as shown by the monthly report of the statistician of the department of agriculture: Pennsylvania, 101; Tennessee, 110; Kentucky, 101; Ohio, 88; Michigan, 78; Indiana, 65; Illinois, 40; Missouri, 52; Kansas, 88; California, 78; Maryland, 111; Virginia, 110; Washington, 106; Oregon, 32. According to the Mark Lane Express it is generally estimated that the English wheat crop will show an average of 28 bu to the acre, which is about 2 bu below the normal. The same authority, commenting on the report that the Russian crops have been so seriously damaged during the last fortnight that the government is preparing to take exceptional measures for the relief of agricultural distress, says: "This is a strange rumor to reach us in July, and we advise the public to be chary about accepting it."

The London Pall Mall Gazette says that owing to drought in New South Wales and South Australia it will be necessary to import thousands of tons of California wheat.

Crop prospects in the northwest are generally good. A few complaints of short heads and a few of rust are coming in. Storms have leveled the grain in some localities, and hail has also done considerable damage in places. These are the exceptions, while general reports are good. The late hot weather would have been bad, only for the accompanying rains, with stiff breezes to shake the water from the straw. All early-sown small grain is heading and in southern sections farmers begin cutting rye in a few days. There is nothing yet in sight to prevent a large yield of grain.—Minneapolis Market Record.

The present outlook favors a yield of 500,000,000 bu for the United States. It will consist of about 320,000,000 bu of winter and 180,000,000 bu of spring wheat.

DAIRY PRODUCTS.

BUTTER.

There is nothing of particular interest in the butter market at present. Perhaps it may be quoted as slightly better in tone than a week ago, especially on the finer grades of good table butter, both creamery and dairy. But there is still a large amount of stock coming forward yet that is a great detriment to the market, and cannot pay those who produce it. Quotations here are as follows: Creamery, 13@14c; extra dairy, 11@12c; fair to good dairy, 9@10c; low grade to common, 6@8c. At Chicago the market is in rather poor shape so far as ordinary stock is concerned. Receipts contain large amounts of poor and heated packages, which dealers have to force on the market at concessions to get rid of. Choice stock, however, holds about steady. Quotations in that market on Thursday were as follows: Creameries, extras, 14½c; firsts, 12½@13c; seconds, 11½@12c. Dairies, extras, 12c; firsts, 10@11c; seconds, 9c; packing stock, fresh, 8c. The New York market holds steady at about the prices quoted a week ago, but there is less activity in the trade, and the outlook is not regarded as so promising. The New York Tribune says of the market: "For some days following our last weekly report the market was quite firm on fancy creamery, with a number of sales of perfect quality, especially in long lines exceeding the general wholesale quotation. For the last two days, however, the demand has been lighter, and while there is still a fairly firm feeling on very high grades because of the shortening supply of such, the market does not look so much like an butter is running off in quality very rapidly, and more than one-half of the present offerings are faulty in some way. A good deal of the butter shows heat, either at the time it was made or while in transit; in fact, a good many carloads of stock have come in here within the last week very much heated and so soft that it could not be shown until placed in a refrigerator and hardened. There seemed to be a more conservative feeling developed, largely from the fact that export orders are lighter, and the majority of speculative buyers seem to have secured about all of the stock that they want." Quotations in that market on Thursday were as follows: Creamery, western extra, per lb. 15c; do firsts, 14c; do thirds to seconds, 11@13c; do state, extras, 15c; do thirds to firsts, 11@14c; state dairy, half-skin tubs,

extras, 14c; do Welsh tubs, fancy, 13½@14c; dairy tubs, thirds to firsts, 10@13c; state dairy, tins, etc., 10@13c; imitation creamery, fancy, 12@12½c; do seconds to firsts, 9½@11c; factory, extras, 10½c; do firsts, 9½@10c; do thirds to seconds, 7@9c.

At the Utica Board on Monday 98 packages were sold at a range of 15½@16c. These prices are precisely the same as those quoted a year ago at the same date.

At Little Falls on Monday sales were 20 packages of farm dairy at 14@15c, mostly at 15c. These are the same figures quoted a week ago.

CHEESE.

The cheese markets are showing more or less weakness, especially at the east. In this market quotations are the same as for several weeks past, namely, 7½c for best full cream, and will probably not decline below those figures without other markets weakening materially. At Chicago dealers are making concessions on off quality stock, a good deal of the receipts showing the effects of heat. Prime stock, however, holds about steady. Quotations in that market are as follows: Young American, 7½@8½c; twins, 6½@7½c; cheddars, 7@7½c; Swiss, 8@9c; Limburger, 5½@7½c; brick, 5@6c. The New York market is weaker, partially owing to the condition of stock, and partially to a decline in foreign markets. The New York Tribune says of the market: "The receipts of large full cream cheese have been running somewhat lighter the last week, partly due to the fact of Montreal buyers taking the bulk of the northern cheese. A large share of the receipts have shown more or less heat, and supplies of strictly fancy large full cream in perfectly cool condition have not been any more than sufficient for the wants of exporters, and prices have held steady on the basis of 7½c from the beginning of the week to the finish. At the close that figure is the extreme, and buyers are very critical regarding quality when paying it, and a good many really fine cheese only showing very slight effects of the heat have been selling at 7½c, and where defects are more pronounced a material cut in prices has been necessary. Quotations in that market are as follows: State, full cream, large, fancy, colored or white, 7½-8c; do choice, 7½-8½c; do fair to good, 6½-7½c; do common, 6@6½c; do small, colored, fancy, 7½@7½c; do white, 7@7½c; do choice, 6½c; do fair to good, 6½@6½c; light skims, choice, 5½c; part skims, choice, 5½c; do good to prime, 4½@4½c; do common to fair, 3½@4c; full skims, 2½@3c. At the Utica Board on Monday, 10,723 boxes were sold at a range of 6½@7½c, the same figures as quoted the previous week.

At Little Falls on Monday 7,193 boxes were sold, at a range of 6½@7c, as compared with 6½@7c the previous week.

At Liverpool on Thursday the finest white and colored American cheese were quoted at 4½s per cwt; a week ago the quotations were 4½s 6d per cwt, showing a decline of 6d per cwt during the week.

WOOL.

The prospects of a settlement of the tariff at an early day and the knowledge of manufacturers that the domestic clip is very light, and cannot be increased to any extent under two years, is inducing them to lay in stocks in order to meet the anticipated shortage as well as the prospective advance in values. This has caused a firm feeling in the market, and an inclination on the part of sellers to hold for higher prices. Woolen goods are also more active, showing a much better demand than last season, and this fact is regarded by manufacturers and dealers as very encouraging. Once the tariff bill was through Congress, and business adjusted to new conditions, we look for a great improvement in trade and manufactures, which will be reflected in a better demand for agricultural products.

Reports from Boston say that the wool market has shown more strength for the past week than for some time, and dealers are asking higher prices, and in most cases are securing from ½ to 1c per lb more for their stocks than a week ago. At the advance stocks could not be replaced except at a loss, owing to the higher rates prevailing in the country. The following are the quotations for domestic wools in the Boston market: Ohio and Pennsylvania fleeces, X and above, 20@21c; No 1 combing, 24@25c; No 2 combing, 24@25c; XX and XX above, 23c; delaine, 23@24c. Michigan, Wisconsin, etc.; X Michigan, 19c; No 1 Michigan combing, 23c; No 1 Illinois combing, 23c; No 2 Michigan combing, 23c; No 2 Illinois combing, 23c. X New York, New Hampshire and Vermont, 18@18½c; No 1 New York, New Hampshire and Vermont, 20@21½c; delaine, Michigan, 20c; unwashed medium Kentucky and Indiana 3-8 blood combing, 20c; Kentucky and Indiana 3-8 blood combing, 20c; Missouri 3-8 blood combing, 19@19½c; Missouri 3-8 blood combing, 19@19½c; braid combing, 18c; lake and Georgia, 18c. Texas wools, spring medium (12 months), 12c; scoured price, 32@34½c; spring fine (12 months), 11c; scoured price, 36@38c. Territory wools, Montana fine medium and fine, 12@14c; scoured price, 36@38c; staple, 38@40c; Utah, Wyoming, etc., fine medium and fine, 11@13c; scoured price, 36@37c; staple, 38@39c.

The London wool sales now in progress show an advance of 5@10 per cent as compared with the last series on the best descriptions. The large purchases by Americans of the best grades has greatly strengthened the market, and the belief that the severe drought now being experienced in Australia will result in materially lessening next season's clip, is also an important factor in pushing up values.

DETROIT PRODUCE MARKET.

Detroit, July 15, 1897.

FLOUR—Quotations on jobbers' lots in barrels are as follows:
Straights \$4.25 @ 4.50
Clears 4.00 @ 4.25
Patent Michigan 4.75 @ 5.00
Low grade 3.50 @ 3.60
Rye 2.50 @ 2.75
Corn—No. 2, 26½c; No. 3, 26c; No. 2 yellow, 28c; No. 3 yellow, 27c. Market firm.
OATS—Quoted as follows: No. 2 white, 24½c; No. 3 white, 24c; light mixed, 24½c.

RYE—Quoted 36c per bu for No. 2, and 33c for No. 3.

BARLEY—Quoted at from 50@60c per 100 lbs. No sales.

POTATOES—Old potatoes are out of market; new Southern are quoted at \$2.50 @ 2.75 per bbl.

BEANS—Quoted at 62@65c per bu in car lots.

BUTTER—Creamery, 12½@14c; fancy dairy, 11c; good dairy, 9@10c; low grades, 6@7c per lb.

CHEESE—New Michigan full cream, 7½c.

EGGS—Quoted at 9½@10c for strictly fresh from first hands. Ordinary receipts, 8½@9c per doz.

APPLES—New quoted at \$2.50@3.00 per bbl. Some old have sold at \$1.45 per bbl.

CHERRIES—Sweet, \$1.50@1.75 per bu; sour, \$1.25 per bu.

MELONS—Watermelons, 25@30c; muskmelons, \$2.50 per crate.

BLACKBERRIES—Red raspberries, \$2.50 per bu; blackberries, \$2 per bu; black raspberries, \$1.25@1.50 per bu; gooseberries, 50c per bu; red currants, 75c@1.25 per bu; huckleberries, \$1.75@2c per bu.

DRIED FRUITS—Evaporated apples, 4½@5c; evaporated peaches, 9c; dried apples, 2c per lb.

HONEY—Quoted at 11@12c in sections for white, and 9@10c for dark comb; extracted, 6@6½c per lb. At Chicago it is quoted as follows: White clover, choice, 11@12½c; imperfect comb, 7@9c.

POULTRY—Live quoted as follows: Spring chickens, per lb, 11@12c; fowls, 7@7½c; old roosters, 4@5c; turkeys, light weights, 9@10c; ducks, 9@10c. At Chicago quotations are as follows: Turkeys, 6@7c; chickens, hens, 7½c; ducks, 6@6½c; geese, 6@7c.

DRESSED VEAL—Quoted at 6@7c for ordinary to good carcasses, and 7½@8c for fancy.

PROVISIONS—Mess pork, \$3.25 per bbl; short cut mess, \$3.50; short clear, \$3.50; compound lard, 4c; family lard, 4½c; kettle lard, 5½c; smoked hams, 9@9½c; bacon, 7½@7¾c; shoulders, 6½c; picnic hams, 7c; extra mess beef, 7c; plate beef, \$7.75.

COFFEE—City prices are: Rio, roasting, 15c; fair, 16c; good, 18@19c; prime, 20c; choice, 22@23c; fancy, 24c; Maracabo, roasted, 25c; Santos, roasted, 24c; Mocha, roasted, 23c; Java, 29c.

HARDWARE—Wire nails, 1.55; steel cut nails, 1.55 per cwt, new card; axes, single bit, bronze, 5½; double bit, bronze, \$3.50; single bit solid steel, 5½; double bit, solid steel, \$3.50 per doz.; bar iron, \$1.40; carriage bolts, 75 per cent off list; tire bolts, 70 and 10 per cent off list; painted barbed wire, 1.65; galvanized do, 1.85 per cwt; single and double strength gal, 70 per cent off list; sheet iron, No. 24, \$2.50 per cwt; galvanized, 75 and 10 per cent off list; No 1 annealed wire, \$1.40 rates.

OILS—Raw linseed, 32c; boiled linseed, 34c per gal, less 1c for cash in ten days; extra lard oil, 42c; No 1 lard oil, 33c; water white kerosene, 8½c; fancy grade, 11½c; deodorized stove gasoline, 7½c; turpentine, 32½c per gal in bbl lots; in less quantities, 38@40c per gal.

HAY AND STRAW—Baled hay quoted as follows: No. 1 timothy, \$10.50 per ton; No. 2, \$9.50. Loose hay—Good timothy, \$10@12; ordinary to fair timothy, \$8@9; mixed clover and timothy, \$8@9; clover first crop, \$6.50@6.50; second crop, \$5.50. Loose oat straw, \$4.50.50 per ton; baled, \$4.50; baled wheat straw, \$4.50; oat straw, \$4.50; rye straw, \$2.50.

HIDES—No. 1 green, 6c; No. 1 cured, 7c; No. 2 green, 5c; No. 2 cured, 6c; No. 1 cured calf, 7c; No. 2 cured calf, 5½c; No. 1 green calf, 7c; No. 2 green calf, 5½c per lb; sheepskins, 60@80c each.

WOOL—Unwashed fine, 11@12c; unwashed medium, 15@16c; washed fine, 15@16c; washed medium, 18@19c per lb.

DETROIT LIVE STOCK MARKET.

Michigan Central Stock Yards.

Detroit, Mich., July 15, 1897.

CATTLE.

Thursday's receipts of cattle numbered 1,130 head; through and direct to butchers, 497; on sale, 633; as compared with 342 one week ago. Quality not very good, being mostly grassers, common to fair mixed butchers, and stockers. Market active; all sold early at strong last week's prices; \$4.25 was the highest price paid for a steer weighing 1,180 lbs, but the bulk changed hands at prices ranging from \$2.60@3.90; old cows and common thin butchers, \$2.25 @2.50; bulls, light to good butchers, \$2.50@3.00; stockers, \$3.00@3.60; feeders, \$3.75@3.90. Veal calves, Receipts, 135; one week ago, 64; fairly active but lower; sales at \$4.75@5.60 per 100 lbs. Milch cows and springers, unchanged; sales mostly at \$30@40 each; choice would bring \$2.50@5.00 per head more.

G J Smith sold Black 3 fat cows av 1,060 at \$3, and 12 mixed butchers av 750 at \$3.65. To Mich Beef Co 6 mixed butchers av 875 at \$2.60, and 2 common cows av 920 at \$2.25.

Dillon sold same 8 mixed butchers av 665 at \$3.40, and 3 do av 820 at \$2.75. Granger sold Schleicher 7 light butchers av 550 at \$3, and a cow to black weighing 1,080 lbs at \$2.35.

Joe McMullen sold Mich Beef Co 4 bulls av 1,075 at \$2.75, and 27 good mixed butchers av 742 at \$3.50.

White sold same 28 do av 770 at \$3.60, and 6 do av 553 at \$3.25.

Spicer & Merritt sold same a fat bull weighing 1,140 at \$3.00; 2 do av 920 at \$3.00; 1 do weighing 820 at \$2.75; 6 steers av 820 at \$3.75, and 8 stockers av 565 at \$3.40; also a fat cow to Kammern weighing 1,040 at \$3.00.

Roe & Holmes sold Sullivan a fat bull weighing 1,800 lbs at \$3.00, and 13 steers and heifers to Bussell av 846 at \$3.75.

Baughman sold Mich Beef Co 8 mixed av 606 at \$3.40.

Sprague sold Kammern 9 mixed butchers av 784 at \$3.35.

Roe & Holmes sold Mich Beef Co 10 stockers av 461 at \$3.00; 2 mixed av 785 at \$3.40, and a bull weighing 1,040 lbs at \$2.50. To Robinson 9 good mixed butchers av 513 at \$3.85.

Bergin & Terhune sold Mich Beef Co 2 bulls av 1,080 at \$2.35.

J E Beach sold same 27 stockers av 556 at \$3.45; 22 do av 595 at \$3.25; 2 oxen av 1,540 at \$3.00, and 11 mixed av 467 at \$2.85.

York sold Marx 5 mixed butchers av 880 at \$3.25.

Wm Haley sold Kammen 4 mixed butchers av 77 at \$3.00.
York sold Sullivan 11 feeders av 88 at \$3.75.

Spicer & Merritt sold Mich Beef Co 2 bulls av 1,020 at \$2.60; 5 fat cows to Black av 1,060 at \$3.50; 2 do av 1,110 at \$2.90, and a fat steer to Sullivan weighing 1,180 lbs at \$4.25.

Roe & Holmes sold Cook & Fry 17 mixed butchers av 791 at \$3.75; 7 fat cows to Maggie av 1,002 at \$3.00 and 2 bulls av 710 at \$2.50.

Bergen & T sold Caplis & Co 10 good butcher steers av 1,020 at \$4.00 and 3 fat cows av 910 at \$3.00; to Taubitz 7 mixed av 507 at \$2.80.

Richmond sold Mich Beef Co 23 feeders av 890 at \$3.70.
Valer sold same 6 cows av 1,135 at \$3.00 and 2 bulls av 825 at \$2.65.

Astley sold Sullivan 2 bulls av 1,310 at \$2.85; a fat heifer to Mohr weighing 860 at \$3.00 and a fat bull weighing 860 at \$3.00.

Wm Haley sold Mason 7 mixed butchers av 788 at \$3.50.
Ackley sold Mich Beef Co 5 mixed av 876 at \$3.60; 6 cows to Black av 1,021 at \$2.70 and 2 bulls to Sullivan av 630 at \$2.70.

Roe & Holmes sold Fitzpatrick 13 mixed butchers av 924 at \$3.00 and 2 bulls av 780 at \$2.50.

Spicer & M sold Mich Beef Co 14 stockers av 444 at \$3.25 and 9 mixed av 577 at \$2.75. Vanbuskirk sold same 2 bulls av 840 at \$2.60, and 6 mixed av 746 at \$3.50.

Clark & B sold same 17 mixed stockers av 660 at \$3.40, and 3 cows av 960 at \$2.75.

Bartholomew sold Black 9 steers av 1054 at \$3.90, and 3 fat cows av 976 at \$3.00. Pinkney sold same 3 cows av 1003 at \$2.75, 2 do to Caplis & Co av 1135 at \$3.00, 2 do av 1030 at \$3.50, and 2 bulls av 765 at \$2.50.

Glenn sold Sullivan 11 steers and heifers av 988 at \$3.85.
Glenn sold Mich Beef Co 7 mixed butchers av 873 at \$3.30, 11 stockers av 636 at \$3.40, and a bull weighing 860 at \$2.50.

Adams sold same 9 mixed butchers av 700 at \$3.50.
Winslow sold Caplis & Co 4 mixed butchers (cows and bull) av 1100 at \$2.85. Seeley sold same 2 do av 950 at \$2.40.

Vickery sold same 8 do av 1050 at \$3.20.

SHEEP AND LAMBS.

Receipts Thursday, 1,144; from the west direct to butchers, 262; on sale, 882; as compared with 248 one week ago. Market opened at about last week's prices, but at the close was slow and 20c to 25c lower.

Range of prices: Lambs, \$4.80 to \$5.50; good mixed lots, \$4.35 to \$4.75; fair to good mixed butchers, \$3 to \$4.25.

Adams sold Michigan Beef Co 34 lambs av 55 at \$5 and 18 mixed av 94 at \$3.25. Sharp sold same 23 lambs av 76 at \$5.50. Luckie sold Fitzpatrick 36 mixed lambs av 74 at \$4.75.

B. O. Knapp sold same 23 lambs av 65 at \$5.
McRoberts sold Richmond 12 lambs av 52 at \$5.

Bartholomew sold Wreford 31 mixed av 90 at \$3.50.
Horne sold Duff 19 lambs av 63 at \$5.

Ansty sold Fitzpatrick 13 lambs av 74 at \$5, and 13 mixed av 84 at \$3.
Spicer & M sold Young 25 lambs av 61 at \$5, and 11 yearlings av 93 at \$4.

White sold June 12 do av 86 at \$4.25.
Horne sold Fitzpatrick 60 do av 77 at \$4. Roe & Holmes sold Richmond 61 mixed av 62 at \$4.10.

Haley sold Wreford 33 do av 81 at \$4.50.
Spicer & M sold same 31 do av 74 at \$4, and 34 mixed to Hammond, S & Co av 70 at \$3.60.

Baughman sold Hammond, S & Co 30 av 79 at \$4.39.
Clark & B sold Fitzpatrick 25 mixed av 81 at \$4.50, and 23 do av 72 at \$4.30.

Johnston sold Hammond S & Co 88 do av 88 at \$4.
Roe & Holmes sold Mich Beef Co 38 do av 94 at \$3.10, and 61 lambs av 63 at \$5.

York sold Mason 21 mixed av 86 at \$4.

HOGS.

Thursday's receipts were 3,753; from the west direct to packers, 1,132; on sale, 1,621 as compared with 987 one week ago. There is no change to note in quality; market active at prices averaging 5c below last Friday's closing. Range \$3.50 to \$3.55; stags, 1/4 off; roughs, \$2.75 to \$3.25; pigs, \$3.55 to \$3.75.

Spicer & M sold Parker, Webb & Co 15 av 162, 90 av 208, 24 av 121, 43 av 183, 28 av 210 and 21 av 230, all at \$3.50; also 13 to Sullivan av 119 at \$3.50.

Glenn sold Sullivan 18 av 196 at \$3.50.
Vickery sold R S Webb 22 av 204 at \$3.50. Horner sold same 52 av 197 at \$3.55 and 30 av 155 at \$3.52.

Ansty sold same, 52 av 197 at \$3.55.
Ansty sold same 75 av 163 at \$3.55.
Carter sold same 70 av 204 at \$3.55.

Sharp sold Hammond S & Co 25 av 252 at \$3.50.
Ackley sold same 16 av 257 at \$3.50.

Luckie sold same 47 av 205 at \$3.55.
Dennis sold Parker W & Co 23 av 207 at \$3.50.

Knapp sold same 66 av 167 at \$3.50.
Sprague sold same 40 av 196 at \$3.55.

Pinkney sold same 56 av 201 at \$3.55.
Vanbuskirk sold same 58 av 174 at \$3.55.

Astley sold Hammond S & Co 73 av 207 at \$3.52.
McRoberts sold same 35 av 241 at \$3.50.

York sold same 86 av 210 at \$3.50.
Johnston sold same 21 av 215 at \$3.50.

Roe & Holmes sold same 14 av 191, 72 av 194, 37 av 193, 15 av 232, 27 av 147 and 74 av 177, all at \$3.55.

Coates sold R S Webb 66 av 168 at \$3.55.
Bartholomew sold same 12 av 255 at \$3.50.

Haley sold same 12 av 191 at \$3.55.
Clark & B sold Farnum 22 av 180 at \$3.55.

Johnston sold Sullivan 10 av 113 at \$3.50.

OUR BUFFALO LETTER.

East Buffalo, July 15, 1897.

Cattle.—Receipts of cattle on Monday last were 5,348, as compared with 4,862 for the same day the previous week, and shipments were 5,082, as compared with 3,240 for the same day the previous week. The market on Monday opened weak and lower. The decline ranged from 15 to 25c per hundred on all classes but good dry fed cows and heifer stock and fancy bulls. Prime and medium steer cattle were very dull, as were stockers and feeders. Milch cows were higher on choice, and veal calves were steady. Since Wednesday there has been little change in the market so far as prices are concerned, but there is some improvement in the tone as the result of cooler weather, and dealers

think the prospects much better for good cattle than early in the week. Quotations at the close on Wednesday were as follows: Export and shipping steers.

Prime to extra choice finished steers, 1,200 to 1,400 lbs, \$4.50@4.65; prime to choice steers, 1,200 to 1,400 lbs, \$4.40@4.50; good to choice fat steers, 1,200 to 1,400 lbs, \$4.15@4.35; good to choice fat steers, 1,300 to 1,400 lbs, \$4.20@4.40; good to choice fat smooth steers, 1,100 to 1,200 lbs, \$4.00@4.15; green coarse and rough fat steers, 1,100 to 1,450 lbs, \$3.40@3.75. Butchers' native cattle.—

Fat smooth dry fed steers, 1,050 to 1,150 lbs, \$4.00@4.25; fat smooth dry fed light steers, 900 to 1,000 lbs, \$3.75@3.90; green steers thin to half fattened, 1,000 to 1,400 lbs, \$3.40@3.65; fair to good steers, 900 to 1,000 lbs, \$3.40@3.75; Texas steers, \$3.50@3.85; choice smooth fat heifers, \$3.90@4.15; fair to good fat heifers, \$2.75@3.10; fair to good mixed butchers stock fat and smooth, \$3.15@3.50; mixed lots fair to good quality fat cows and heifers, \$2.50@3.25; good smooth well fattened butcher cows, \$3.25@3.50; fair to good butcher cows, \$2.75@3.00; common old cows, \$2.25@2.75; common to fair lots, mixed cows, heifers and thin steers half fattened, \$2.50@3.15. Native stockers, feeders, bulls and oxen.—Feeding steers, good style, weight and quality, \$3.60@3.75; feeding steers, common to only fair, \$3.40@3.50; good quality yearling stock steers, \$3.60@3.75; stock heifers, common to choice, \$2.75@3.00; stock steers, cull grades and throw-outs, \$2.75@3.00; export weight bulls, fat and smooth, \$3.40@3.65; good fat, smooth butchers' bulls, \$3.15@3.40; fair to good sausage bulls, \$2.35@2.75; thin old and common bulls, \$2.25@2.75; stock bulls, \$2.50@2.75; fat smooth young oxen, to good lots fit for export, \$3.75@4.25; fair to fairly good partly fattened young oxen, \$3.50@3.75; old common and poor oxen, \$2.15@3.40. Canadian stockers and feeders.—Feeders, good quality, \$3.75@3.85; feeders, common to good, \$3.40@3.65; stockers, lightweight and prime selected yearlings, \$3.75@4.00; common grade stockers and feeders, \$3.25@3.50; stock heifers, light common to good, \$2.75@3.00; milkers and springers, \$3.00@3.25; strictly fancy, \$3.25@3.45; milkers, good to choice, \$3.40@3.60; milkers, poor to fair, \$3.10@3.20; springers, strictly fancy, \$3.20@3.40; springers, fair to good quality, \$3.00@3.25; common milkers and springers, \$2.40@2.60; old rimmer cows, \$3.00@3.25. Veal calves.—Veals, prime to extra, \$5.25@5.60; veals, good to choice, 4.75@5.00; veal calves, common to fair, \$4.00@4.65; heavy fed and buttermilk calves, as to quality, \$2.50@3.75.

On Thursday nothing was doing in cattle, and no quotations could be given.

Sheep and Lambs.—Receipts Monday were 6,300, as compared with 6,800 the previous Monday; shipments were 4,200, as compared with 4,300 same day the previous week. The week opened with light receipts, but a very slow market for all sorts. Prices were barely steady for yearlings and lambs, while sheep were from 10 to 15c per hundred lower. Since Monday, with cooler weather and very light receipts, the market is firmer for good yearlings and lambs, and steady for sheep. The demand for export, which was dead earlier in the week, has become more active. Quotations at the close on Wednesday were as follows: Native yearling lambs.—Fancy handy selections, \$4.35@4.50; good to choice, \$3.90@4.15; fair to good, 65 to 70 lbs, \$3.50@3.75; common to good cuts, \$3.00@3.40; export yearlings, 95 to 110 lbs, \$3.90@4.25. Spring lambs.—Good to fancy wethers, \$5.15@5.35; fair to good, \$4.50@5.00; culls and common, \$3.25@4.25. Native clipped sheep.—Prime to fancy wethers, \$3.65@3.90; good to choice handy sheep, \$3.50@3.75; common to fair, \$2.75@3.40; culls and common, \$2.00@2.50; good to extra heavy export clipped mixed sheep to prime wethers, \$3.50@4.10.

Receipts of sheep and lambs were light on Thursday, and the market closed firm at an advance of 10¢ to 15c on both.

Hogs.—Receipts of hogs on Monday last were 15,990, as compared with 15,480 for the same day the previous week; and shipments were 14,100, as compared with 13,270 for the same day the previous week. With continued light receipts the market opened strong and higher on Monday, but weakened later. Sales were at a higher range than the previous Monday, and all offered were taken. Tuesday prices averaged higher than on Monday by 5¢ to 10¢, but a part of the advance has since been lost. However, sales on Wednesday were at an advance of 5¢ to 10¢, as compared with last week. Quotations at the close were as follows: Good to choice light medium grades, 180 to 190 lbs, \$3.75@3.77; good to choice pigs and light yorkers, 125 to 150 lbs, \$3.80; mixed packing grades, 185 to 200 lbs, \$3.60@3.65; fair to best medium weight, 210 to 260 lbs, \$3.55; good to prime heavy hogs of 270 to 300 lbs, \$3.55; rough, common to good, \$3.10@3.20; stags, common to good, \$2.25@3.00; pigs, light, 105 to 120 lbs, good to prime corn fed lots, \$3.80; pigs, thin to fair, light weight of 70 to 100 lbs, \$3.60@3.75; pigs, clips and common light and undesirable lots, \$3.25@3.50.

On Thursday the market for hogs was quiet and unchanged.

CHICAGO.

Union Stock Yards, July 15, 1897.

Cattle.—Receipts for last week were 45,818 head, as compared with 43,915 for the same week last year. Up to and including Wednesday of this week, receipts have been 35,069, against 34,348 for the same days last week, showing a small increase. The market shows some improvement this week. On Wednesday business was fairly active, and prices stronger, while prime steers sold fully 10c higher. Export buyers were here in force and bought all the good cattle they could find at \$4.60@4.75, while domestic shippers paid \$4.80@5.15 for choice to extra prime steers. There was quite a number of good fed western long horns, one lot making \$4.20. Prices on Texans are lower than last week, but the quality is poor and common, selling around \$3.25@3.50. Prime native cows and heifers making as high as \$4.20, and the poorer lots of cows, \$3.25@3.75. The extreme range in steer cattle was from \$3.65 for common light lots, to \$5.15 for fancy well-finished lots. Veal calves sold at \$5.00@5.50, or about 50c per hundred lower than last week.

On Thursday receipts of cattle were 9,000 head. The market ruled steady to firm, at the following range: Steers, \$3.80@5.10;

cows and heifers, \$1.90@4.30; Texas steers, \$2.85@4.00; stockers and feeders, \$3.25@4.25.

Sheep and Lambs.—Receipts last week were 66,174, as compared with 49,054 for the same week last year. Up to and including Wednesday of this week, receipts have been 39,624, as compared with 36,100 for the same days last week, an increase of over 3,500. The market was dull on Monday, but has improved since, especially on good lambs and yearlings. Sheep are about steady. Quotations at the close on Wednesday were as follows: Native sheep, including old ewes, \$3.25@3.75; western grass sheep, \$3.10@3.25; fed westerns, \$3.40@3.65; native yearlings, \$4.40@4.50; clipped lambs, \$4.40@4.75; cull native lambs, \$3.50@3.75; prime native spring lambs, \$5.25@5.60.

Receipts of sheep on Thursday were 14,000 head. The market ruled steady to firm at Wednesday's prices.

Hogs.—Receipts last week were 108,752, as compared with 110,746 for the corresponding week in 1896. Up to and including Wednesday of this week, receipts have been 97,993, as compared with 57,896 for the same days last week. The market was fair on Monday, showed some improvement on Tuesday, but weakened during the day on Wednesday after opening with a spurt. Light hogs declined 5c from opening prices, other grades weak but unchanged. Quotations at the close were as follows: Rough packs, \$3.10@3.25; prime heavy packers and good mixed, \$3.30@3.35; prime mediums and butcher weights, \$3.45@3.50; prime light, \$3.45@3.50 at the close, with \$3.55 paid at the opening.

Receipts of hogs on Thursday were 21,000 head. Market active and steady to firmer. Light, \$3.35@3.55; mixed, \$3.20@3.50; heavy, \$3.05@3.42; rough, \$3.05@3.20.

For the Michigan Farmer:

VALUE OF COLLEGE TRAINING ON THE FARM.

Keen observers of passing events, as well as the foremost educators of the land, are more and more coming to the conclusion that if we realize the best results attainable in our civilization young men and women must be educated to do something and to be something and somebody as they go out of the school-room to discharge the great duties of life.

Our Agricultural College furnishes opportunities to acquire industrial education as well as intellectual, and those who take a course there need not fear to come in contact with those educated elsewhere, and in many respects and for many callings it is superior to the ordinary college education.

As I write this I have in mind scores of young men, whom I will not name, who stand in the front rank as successful farmers, and as honored citizens in the communities where they reside. If a young man or woman desired to climb the Michigan Agricultural College is prepared to furnish the ladder upon which they can go up to any desired height. It is prepared for the use of the ambitious, and why more of our young people do not avail themselves of its benefits, I know not.

Coldwater, Mich. CYRUS G. LUCE.

A statement issued by the U. S. mint bureau shows that during the fiscal year ending June 30th there were coined 21,203,701 silver dollars. The seigniorage, or profit, accruing to the government on this coinage amounted to \$6,336,104, all of which has been turned into the U S treasury.

A Russian farmer, W. Bokaseff, now in this country, in a recent interview with a reporter of the Washington Post, said: "I have come to America to study your methods of farming and dairy business, and especially to look into the cultivation of the sunflower plant in this country. I am a sunflower farmer at my home in Russia. One of my family was the first person in Russia to obtain oil from the seed of the sunflower. It is one of the leading agricultural industries in the Czar's dominion now, and the people can clear more money from it than from any other crop. If the soil and climatic conditions are right in the United States, and I can find a suitable location I may enter on the cultivation of the sunflower on a large scale, and also put up mills for the extraction of the oil."

A clergyman whose piety has not lessened his sense of humor says that he was one day called down into his parlor to perform a marriage ceremony for a couple in middle life.

"Have you ever been married before?" asked the clergyman of the bridegroom.

"No, sir."

"Have you?" to the bride.

"Well, yes, I have," replied the bride, laconically, "but it was twenty years ago, and he fell off a barn and killed himself when we'd been married only a week, so it really ain't worth mentioning."—Harper's Bazar.



AFTER the many interesting discussions over the question of windmills and their value to the farmer in this journal, our readers will be interested in reading the advertisement in this issue of the Wolverine Mill, manufactured by the Bean-Chamberlin Mfg. Co., of Hudson, Mich. This is a galvanized steel mill, back-gear and direct stroke, made strictly for business. The galvanized steel four-cornered tower on which it stands, is very strongly put together, and the posts, bolts and bands so arranged that they act as braces, and can be tightened at will when from any reason they become loosened, by merely giving the nuts a few turns. Then the tower has a ladder, which makes it an easy and safe matter to mount the platform when necessary. The mill is galvanized after completion. The Wolverine does not use chains or pulleys; it is regulated by an automatic device, by which it is always kept squarely to the wind when in gear. The gearing is covered to protect working parts from sleet and snow. But for a complete description of this mill you should write the manufacturers for their catalogue, which gives all necessary information. The company also manufacture a full line of windmill pumps of the latest designs, and at very reasonable prices.

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ECONOMY IN THE DAIRY

At this time of year milk in the dairy will sour before one-third the cream can rise to the surface. The other two-thirds are lost.

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Horticultural.

For the Michigan Farmer.

SQUASH GROWING NOT ALWAYS A SUCCESS.

For a number of years back I have had such discouraging success in growing winter squashes, that I have about given up trying to grow them, but being a great lover of this vegetable and knowing that my former failures were due to my own negligence at the critical periods of its growth, I determined to try once more.

I have never failed to get a fine growth of plants but just when they seemed to be doing their best, they would "up and die." This came from one of three causes, the striped beetle, the squash bug, also called stink bug, and the borer.

The striped beetle which appears as soon as the plant puts out its third leaf, and often before, I can most surely circumvent with a liberal application of land plaster or slacked lime upon and underside the leaves. The squash or stink bug is harder to fight than the beetle, but so far this season I have been successful in holding this pest in check. As soon as I discover any of the eggs from this insect, which can be readily seen on the underside of the leaves as they are quite large, oval-shaped and of a yellowish brown, and are arranged in irregular groups of from 10 to 50, I destroy them. Should any eggs be overlooked, I trap the young bugs, which hatch in about ten days from the time of deposition, under small pieces of wood and chips.

The bite of this insect is as poisonous to the squash as a bedbug is to a person; it seems to inject into the plant some of its saliva whenever it punctures the plant and wherever a plant is punctured by this insect that part will wither and die.

My greatest anxiety is now the borer which will soon make its presence manifest by the withering and dying of the vines. The moth which lays the eggs for this insect makes its appearance in June and remains often till the end of July; it deposits its eggs, which are disk-shaped and brown, singly on any part of the vines. There is no insecticide which will destroy the borer, though any substance which would serve as a repellent to the young caterpillar might act as a preventative. Benzine mixed with plaster or gas tar has been recommended for this purpose.

Just this far have I often been successful but for lack of time I have never been able to follow the plan recommended by our most successful growers.

This plan consists of burying several successive joints from the base and an occasional one along the vine. If the ground is fertile and moist these joints will take root and mature the fruit even when the main root is eaten off.

Should the soil not be moist enough when I bury the joints, I will carry water enough one or two evenings to dampen it that they will root more readily.

Kalamazoo Co., Michigan.

B. A. WOOD.

ANTHRACNOSE OF THE RASPBERRY.

The New York Agricultural Experiment Station at Geneva has been investigating this disease of the raspberry for several seasons, and has given the results of the observations and experiments in a recent bulletin. The bulletin says the fungus usually appears in the form of small purplish spots upon the canes, attacking first the tender growth of the young shoots, new spots appearing as the canes grow, and the older ones enlarging and spreading. These spots, with the layers of corky tissue thrown out in the effort to heal the wounds, cause the rough, scabby appearance of the canes and frequently affect the vitality of the plants so seriously that the fruit shrivels and dries up instead of ripening, the foliage becomes pale and drops off, and the canes die.

The treatment adopted by the station has been to spray the raspberries in early spring, before the foliage appears, with strong solutions of copper sulphate or iron sulphate, to follow this with from two to five applications of Bordeaux mixture, and to remove diseased canes at the close of the season. The treatment has been successful in

preventing spreading of the disease to new canes, yet in no case did the sprayed rows give a sufficiently increased yield to pay expense of spraying. The bulletin advises that commercial raspberry plantations be maintained until they have produced three crops only, as the greatest damage from anthracnose usually takes place after the third season.

Each grower, however, must decide for himself, from a careful study of the conditions, whether it will pay to keep up the plantation a longer period and to spray for the disease. By the use of healthy plants and good culture, removal of diseased canes, protection of young shoots by spraying with Bordeaux mixture, and adoption of short-term plantations, loss from the disease may be reduced to a minimum.

The bulletin is valuable to all raspberry-growers, from its careful description of anthracnose and its statement of the conditions which make treatment necessary or inadvisable. Any one interested may obtain a copy by sending a request to the station.

FOLIAGE PLANTS FOR HOME ADORNMENT.

From an address on this subject by Robert Craig we take the following extracts regarding two plants which commend themselves to the amateur from the ease with which they can be grown and the great beauty of their foliage, which contrasts so well that they produce a very fine effect when grown in proximity to each other:



FIG. 1—FICUS ELASTICA.

Ficus elastica (Fig. 1) is a native of the East Indies, and the tree which produces the India rubber of commerce. This tree in its native habitat grows to a height of 75 feet, and the trunk is full of white sap of the color of milk, and of about the same consistency. The trees are tapped in much the same way that pine trees are tapped for turpentine, in this country. It is a plant of easy culture, and is very popular as a room plant.

Next we have a specimen of *Areca lutescens*, a native of South America, and very popular for its graceful beauty. It is more delicate than the palms we have been considering, requiring more constant care and watchfulness in the matter of watering. If it is not allowed to get too dry it may be kept for years in a room. It should be near the light; a south window is an admirable place.



FIG. 2—COCOS WEDDELLIANA. (Dwarf Palm.)

Auracaria excelsa, popularly known as the Norfolk Island palm, is now a very great favorite on account of its excellent symmetry, and from the fact that it grows well in a room. It should be placed near a window and watered regularly. In Europe this plant is used by the hundreds of thousands and is

the chief specialty in many large nurseries.

The most elegant dwarf palm in cultivation is the *Cocos Weddelliana* (see Fig. 2.) It forms a beautiful ornament to place upon the center table. Hundreds of thousands are annually grown in this country, and so popular is it that there has never yet been plants enough to supply the demand.

Cyas revoluta is a plant which has for years been a favorite for outdoor decoration in the summer, and is now becoming very popular as a house plant. It may with ordinary care be kept for years; in the house in winter, and as an ornament to the lawn or other outside position for summer. In conclusion I will call your attention to the *Dracena fragrans*. This is a plant of very symmetrical appearance and easy culture, requiring only regular watering and sponging of both under and upper sides of the leaves. *Dracena terminalis* has brown red foliage, variegated with crimson and pink. In concluding I cannot do better than to again call your attention to the benefit of frequent sponge baths for the house plants.

THE GOOSEBERRY.

The gooseberry is recommended for culture in localities where the season is not long enough for grapes to ripen successfully, and we think will be found especially adapted to the limestone soils of the Upper Peninsula, although it succeeds well on a variety of soils, providing climatic conditions are favorable. Hot suns and long droughts are very injurious to its successful culture.

The cultivation of the gooseberry has been made the subject of a bulletin issued by the horticultural department of the New York Experiment Station, from which we make some extracts which will be valuable to those who are engaged in growing this fruit.

In order to have the plants do well the land should be well drained and at least fertile enough to grow a first-class crop of corn till they come into bearing, after which they should be liberally fertilized. It is unreasonable to expect regular crops of large, fine-flavored fruit from bushes which stand in poor soil or in tough old sod, where they struggle for existence in ground that is crowded with the roots of grass, weeds, trees and shrubs, yet it is not unusual to find that such bushes are depended on for the family supply of gooseberries. It is much better to give gooseberries clean cultivation when they are grown for home use the same as when grown for market. On this account it is best to plant them so that a horse cultivator may be used in keeping the ground mellow and free from weeds. A heavy mulch of coal ashes sufficient to keep down the weeds, is better than utter neglect.

As a commercial crop gooseberries are often grown as a secondary crop in well-cultivated orchards, especially when the orchards are young. Abundant yields cannot be secured from gooseberries set in this way after the orchard trees are large enough to shade the bushes and fill the soil with their roots. Sometimes gooseberries are set between vineyard trellises, or, where the vines are grown on the Kniffen system, under the trellises, alternating with the vines. In the latter position the gooseberries are liable to be spotted by the spraying mixture when the vineyard is sprayed.

When gooseberries are set in vineyards the trellises should be at least ten feet apart, thus leaving the gooseberries five feet from the trellis when they are planted midway between the vineyard rows. The gooseberry plants should then stand five feet apart in the row, although some advocate closer setting. In orchards they should not be set nearer the trees than six feet. In the open field if they are set so that the cultivator may run both ways, the gooseberries should stand at least five by five feet apart. If the cultivator is to run but one way the rows should be six feet apart, and the plants four feet apart in the row. Strong growing varieties may need to be planted at greater distances apart than those just given.

In preparing the plants for setting out, broken or bruised parts of the roots should be removed with a clean cut, because the smooth surface will heal more readily than will the rough bruised surfaces. The tops should be shortened to correspond with the amount of roots. New branches will push out later as the roots develop. When the hole is prepared the roots should be spread out and covered with

an inch or more of earth, which should be tramped firmly. The hole is then filled and after the earth has been tramped again, it is covered with a layer of loose earth to prevent the rapid evaporation which takes place when the hard surface is exposed to the air.

English writers usually recommend that gooseberries be trained in tree form, that is, with a single main stem for each plant, and that method is largely followed in the old country. On account of their neat symmetrical appearance such plants are well adapted to well cultivated gardens. A bush grown in this form does not produce suckers, and if it is broken off accidentally it cannot be renewed by letting new sprouts grow, but must be removed and a new plant set in its place. After they have borne five or six good crops it is generally best to replace them with new bushes, for they gradually become less productive than plants which are grown in the bush form, because the latter may be renewed from suckers whenever it is thought desirable to do so.

To grow bushes in tree form, it is simply necessary to remove all buds or eyes from the portion of the cutting or layer which is covered with earth in planting. No underground shoots, or suckers, will then be formed and the plant will have but one main stem or trunk. By annually cutting back new shoots to about three eyes and removing all weak or crowded branches the tree form may easily be kept in symmetrical shape.

For general purposes it is best to set plants that will send up suckers. The older canes which have passed their period of highest productiveness may then be removed annually and their places taken by young vigorous ones which have been allowed to grow for this purpose. By this method of renewal, the skillful grower may keep his plantation in a high state of productiveness for an indefinite period. Including the young canes which are to be used for renewal as above suggested there will usually be five or six canes to a bush, or even a greater number than this with varieties of the American class which have more slender canes.

Gooseberries generally require but little pruning during the first two or three years after they are planted except to clip a few inches off from the strong new shoots and a less amount from the less vigorous ones. This may be done at any time after the leaves fall. The object is to favor the development of the fruit spurs all along the cane. If it is not done the strong buds at or near the end of the cane will start into such vigorous growth in spring that the lower buds will not start or will make but little growth, so that eventually most of the fruiting branches and spurs will be developed near the upper end of a long cane which when loaded with fruit is apt to bend nearly or quite to the ground.

Besides heading-in the bushes in the way just described the pruning consists in removing weak or broken branches and those which have made an excessively vigorous growth. Old canes that have passed the age of greatest productiveness, and branches that are close to the ground should also be taken away.

No definite rule can be given for pruning gooseberries because the kind and amount required varies with the individual habits and condition of

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growth of the bush. A little attention each year is necessary to keep the bushes in best shape for cultivating, spraying, fruit picking and for the free circulation of air through and especially underneath the branches. It is a mistake to think that the center of the bush must be kept open to let the sunlight in as is sometimes advocated. In this climate the fruit may be ruined by such unnatural exposure to direct sunlight and it is better to have it shaded by the foliage. Summer pruning is sometimes practiced with good results. It consists in pinching off the ends of the vigorous shoots at the period of active growth in early summer. The object is to favor the development of fruit spurs.

In the spring as soon as the ground is fit to work it is our practice to fork lightly into the soil the manure which was placed around the plants the fall previous. Shallow cultivation is given near the bushes and somewhat deeper, perhaps three or four inches deep, midway between the rows. It is not well to disturb the roots by deep cultivation. Frequent shallow cultivation is given till about the middle of August when it is discontinued so that the growth may be checked and the wood become well ripened before winter.

The soil must be kept very fertile in order to secure annual heavy crops of fruit and still keep the plants in vigorous condition. At this station gooseberries are grown on a rather heavy clay loam, and stable manure is used for fertilizing them not only on account of the plant food which it furnishes, but also because of the beneficial effect in loosening the soil. One or two forkfuls of manure are given to each plant in the fall and turned under by shallow cultivation in the spring. For a discussion of the use of commercial fertilizers the reader is referred to Bulletin 94 of this station.

The Poultry Yard.

For The Michigan Farmer.
QUERIES AND ANSWERS.

E. W., Northville, Mich., writes: "I am trying to raise ducks, but am having bad luck with them. They dump around a few days with their eyes shut, but eat well, and then they have bowel trouble and will take nothing but water." You have fed your ducks too much raw feed, and given them too much water. Young ducks should not have any raw feed at all; it should always be cooked; they should have only what water they want to drink and not enough to swim in. To stop your trouble at present give ten drops of camphor in a pint of water, and feed lightly for a few days, until they are all right. If people who raise ducks will feed cooked food all the time they will have no trouble.

A few days ago while in a neighboring town a man told me he had some young ducks about four weeks old that did not grow, and asked me to go and see them. To my surprise I found them no larger than they ought to have been at four days old. I asked what he fed. He said, corn meal and wheat screenings (he was a grist miller). I told him I was surprised to see them alive at all. He said: "Ain't meal good for ducks?" I told him to put some meal in a pail of water. He did so and it went to the bottom like so much sand. This he did not understand, but it is a fact. Meal is too heavy feed for ducks or chicks, if not cooked, and screenings are not good at any price.

After I went away from this miller's yards I called upon another duck breeder and found ducks four and six weeks old that would weigh from four to eight pounds, and were almost full grown. I asked, "What do you feed?" She (for it was a woman; her husband was a blacksmith) said to me, "Look at what I feed them!" I found cooked corn meal in the form of a Johnny cake and sour milk mixed together, and only a pie tin of water for them to drink. So you will see at a glance that the one who cooked her feed had full grown ducks in eight weeks while the miller who fed raw meal had poor little things not weighing one pound at that age.

Brother farmers, try the plan of cooking all your feed for your young ducks and you will be greatly benefited.

C. L. HOGUE.

"Only nervous" is a sure indication that the blood is not pure. Hood's Sarsaparilla purifies the blood and cures nervousness.

THE BLACK MINORCA AND OTHER POULTRY MATTERS.

One of the most beautiful and at the same time one of the most practical breeds of fowls when placed under proper conditions is the Black Minorca. To those who desire a fowl of black lustrous plumage, they will fully meet their ideal.

It was only about ten or twelve years ago that the Minorcas were imported into this country from England. Writers on the subject tell us that they originally came from the Isle of Minorca, which we are informed is the easternmost of the Balearic Isles. They came from that portion of the globe to which we are indebted for the foundation of the ever world-popular Leghorn.

They are a fowl very much like the Leghorn in style, carriage and general make up. The greatest difference between the Minorca and Leghorn is in size; in this quality the former has the advantage. The standard weights are as follows: Cock, 8 lbs.; hen, 6 1/2 lbs.; cockerel, 6 1/2 lbs., and pullet, 5 1/2 lbs. It can be readily seen that they are some larger than the Leghorn. Comparatively speaking, their weights are the extreme. The great majority of the Minorcas as bred by the average breeder fall quite considerably below above weights when in natural flesh.

For a small poultry keeper who wishes to keep but a few fowls to supply eggs and an occasional chicken for the table, or in short if they want a fowl that is a first-class layer of extra large eggs and at the same time one with a medium-sized carcass they can do no better than to give the Black Minorcas a trial. But the average farmer, who wants a general purpose fowl, doesn't want this variety. A fowl to sell for market first-class, does not want black shanks and a white or whitish skin. These are practically the only drawbacks the Minorca has. But they are sufficient to condemn them for the average farmer. We know from practical experience that you cannot sell a fowl with a slaty colored shank to an eastern buyer for market anything short of a heavy discount, which sadly cuts off the profits.

We Americans differ widely from the French. The ideal market fowl of the latter is one similar to a Black Minorca, i. e., dark colored shanks and the white skin. The former demand a yellow shank and a yellow skin. This is purely a matter of taste; but it is necessary to cater to this whim if one wishes to dispose of surplus stock for market at the best price. A dark shanked fowl is not a practical fowl for the average farmer. This is one of the reasons why the Hamburgs are not more extensively bred. While one of the most beautiful of fowls, this quality is sadly to their detriment. A dark colored or willowy shank is doubtless one of the reasons why the Black Wyandotte is not, nor never will be, a popular fowl with the market poultryman or average farmer.

"The droppings are worth 50 cents per hen a year. The best way to preserve them is to clean out the hen house every alternate day. Mix one bushel dry dirt, one bushel droppings and half a peck of kainit (crude German potash salts), together and put away in dry place. Kainit can be bought by the bag at any fertilizer store and is not only cheap, but is of itself a good fertilizer. In the mixture it forms sulphates and fixes the ammonia. If it can not be procured use dry sand plaster, but kainit is much better." So says Editor Jacobs, of the Poultry Keeper, one of the most practical of poultry papers. Once or twice we have used dry earth with very satisfactory results. The writer has found dried duck to be excellent for this purpose.

Whenever a dairyman enlarges his herd, he begins to re-arrange his barn also. The sensible stockman does not attempt to keep ten cows where six or seven would be a great plenty. Is this the usual method followed by the average farmer with his poultry? Should it be?

If you intend to build a poultry house, it should be done during the latter part of the summer, if not before. Not later than early fall at the latest. This is particularly important if you intend to construct a side hill house. It is best to build while the soil is dry and

to use nothing but well seasoned lumber. This gives the building a good chance to get thoroughly dried out before winter sets in and will be the means of preventing disease and possibly loss.

Three years ago the writer built a side hill house. The excavation was made during the summer, but before the roof was on and the building finished, the interior had become pretty well wet by fall rains. The result was it didn't entirely dry out until the following summer, causing us no small amount of inconvenience during the whole winter.

Among the many readers of The Farmer, there are doubtless some who contemplate building some sort of a poultry house this summer. If such is the case and your location is favorable, the writer would suggest that you consider a side hill house before building any other. We have one and it is very satisfactory. The writer can say this much for it. In the three or four years which we have used it, both summer and winter, we have yet to have the first sick fowl among its inmates and the first frozen comb. In this house we keep S. C. White Leghorns only.

Will salt hurt chickens? is a question often asked. The writer would answer no, if it is properly fed. There is no reason why a chicken doesn't need salt in moderate quantities as much as any other creature. If salt is mixed with the warm feed two or three times a week, suitable to a person's taste, no harm will result, but on the contrary, good results will follow. But if it is fed to an excess fatal results will follow. The writer has known this to be a fact.

C. P. REYNOLDS.

Shlawassee Co., Mich.

THE HEN IS QUEEN IN KANSAS.

Corn is king in Kansas. The people all accept that as an undebatable truth. Now the Topeka Mail and Breeze comes forward and declares that if corn is king, the good old domestic cackling Kansas hen is queen. Some very clever rhymes by that paper, in support of their declaration, are published.

Following is a sample:

We have read of Maud on a summer day, who raked, bare-footed, the new mown hay; we have read of the maid in the early morn, who milked the cow with the crumpled horn; and we've read the lays that the poets sing, of the rustling corn and the flowers of spring, but of all the lays of tongue or pen, there's nought like the lay of the Kansas hen. Long, long before Maud raked her hay, the Kansas hen had begun to lay, and ere the milk-maid stirs a peg, the hen is up and has dropped her egg; the corn must rustle, the flowers spring, if they hold their own with the barnyard ring. If Maud is needing a hat and gown, she doesn't hustle her way to town; she goes to the store and obtains her suit, with a basketful of fresh hen fruit. If the milk-maid's beau makes a Sunday call, she doesn't feed him on milk at all, but works up eggs in a custard pie, and stuffs him full of chicken fry; and when the old man wants a horn, does he take the druggists a load of corn? Not much! he simply robs a nest and to town he goes—you know the rest. He lingers there and talks, perchance, of true reform and correct fence-nance, while his poor wife stays at home and scowls, but is saved from want by those self-same fowls; for while her husband lingers there, she watches the cackling hens with care, and gathers eggs, and the eggs she'll hide till she saves enough to stem the tide. Then hail, all hail, to the Kansas hen, the greatest blessing of all to men! Throw up your hats and make Rome howl for the persevering barnyard fowl! Corn may be king, but it's plainly seen the Kansas hen is the Kansas queen.

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MICHIGAN CROP REPORT.

The State crop report for July was issued at the close of last week. It says the average yield of wheat per acre in the State, as estimated July 1, is 12.36 bushels, in the southern counties 13.27 bushels, in the central 10.30 bushels, and in the northern 12.40 bushels. These estimates are based on nearly 1,100 reports, nearly 700 of which are from the southern counties, and 300 from the central counties. The estimate for the State is 8-100 of a bushel less, and for the southern counties 2.03 bushels more, than the estimate of the 1896 crop made July 1 of that year.

The Hessian fly is reported from various points, but it does not seem probable that material damage will be done the crop.

The supervisors' returns of farm statistics, so far as footed, indicate practically the same acreage as harvested in 1896.

Harvest will not be general even in the southern counties before the 15th. This is more than two weeks later than last year, when harvesting was begun in the extreme southern part of the State as early as June 16, and the cutting was about completed throughout the southern counties by July 4.

The number of bushels of wheat reported marketed in June is 490,278, as compared with 349,863 reported marketed in June, 1896, and the amount marketed in the eleven months, August-June, is 9,465,582 bushels, as compared with 8,669,482 bushels in the same months last year.

The area planted to corn is estimated at 4 per cent less in the State and 5 per cent less in the southern counties than in average years. In condition the crop averages in the State, southern and northern counties 75, and in the central 76.

The average condition of oats is 88. The estimated area planted to beans is 72 per cent of area in average years. The estimate one year ago was, for the State, 94.

The acreage planted to potatoes is estimated at 18 per cent less than in average years in the southern counties and the State, 19 less in the central and 16 less in the northern counties. The average condition of the crop is now 88.

The average condition of meadows and pastures and of clover sowed this year is 99. The hay crop now being secured is one of the best in average per acre ever harvested in the State.

Apples are estimated to yield less than one-half and peaches less than one-fourth of an average yield.

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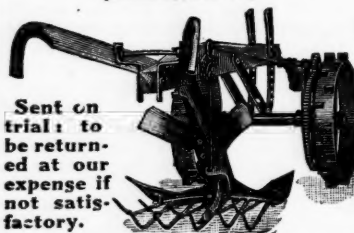
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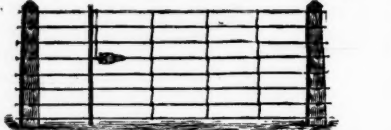
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